IMPROVING

THE TANKER EMPLOYMENT MODEL

GRADUATE RESEARCH PROJECT

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Abstract

This Graduate Research Project is an improvement to the Tanker Employment Model developed by Maj. Margaret Romero. Her model which uses Excel VBA is used to determine the tanker capacity requirements needed to perform specific user defined tanker employment missions. The output is useful for rough-cut analysis of the tanker employment mission.

The improvement to the Tanker Employment Model is the capability to use multiple tanker types simultaneously. The model chooses the optimum order for the tanker types and number of tankers to support a specific tanker employment mission. It also provides additional information to compare the use of multiple tankers.

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IMPROVING THE TANKER EMPLOYMENT MODEL

I. Introduction

1.1 Background

Refueling aircraft while in flight is called air refueling. The aircraft that delivers the fuel is called a tanker aircraft and the aircraft that receives the fuel is called a receiver aircraft. Tanker aircraft indefinitely extend the range of receiver aircraft.

Air refueling is one of the distinguishing characteristics that make the United States the predominant air power nation on the globe. It allows combat and support aircraft to strike targets deeper in enemy territory, extends the time fighter aircraft can protect friendly forces from attack by enemy aircraft, and supports the extension of the United States' military presence around the world (Capehart, 2000:1).

The number of tanker types is increasing with the purchase of the KC-767 and KC-45 tankers by our allies. The USAF signed a contract for the purchase of 175 new KC-45 tankers in March 2008. Tankers have different capabilities and often fly different routes to support the same mission and thus arrive at their offload point with different amounts of fuel available for refueling operations. The variability of fuel available for refueling operations makes it difficult for planners to quickly identify the number and type of tankers needed for a mission.

1.2 Problem Motivation

Major Romero's rough-cut Tanker Employment Model (TEM) provides AMC with an efficient tool for quickly assessing tanker employment capabilities. (Romero, 2006) Unlike Major Romero's model the U. S. Military and its allies use multiple tanker

types. Tankers have a wide range of capabilities and capacities and this directly impacts what missions they are best suited to perform. The number of tanker types is increasing with the purchase of the KC-767 tankers by our allies. (Boeing, 2008) The USAF signed a contract for the purchase of up to 179 new KC-45 tankers in early 2008. (Officials, 2008) Due to the Joint and Coalition nature of today's warfare, a tool must have the capability to model all potential tanker types/characteristics to better represent the reality of the current missions.

1.3 Problem Statement

Air Mobility Command lacks a simple, efficient tool for analysis of strategic tanker capabilities during the employment phase of military operations. The Tanker Employment Model developed by Major Margaret M. Romero, USAF was designed to meet this deficiency. The Tanker Employment Model fails to model the multiple tanker type environments in which the USAF operates. This makes the model less useful for the AMC planners. This model should be modified now because Major Romero has created momentum on the topic and modifying the model may result in a simple efficient tool which is useful for current and future operations.

1.4 Research Objectives

The goal of this research is to add a multiple tanker option to the tanker employment model to produce a simple, efficient rough-cut tool to assist planners in quick turn analysis or gross feasibility checks. The following questions in section 1.5 must be answered in order to improve the current model.

1.5 Research Questions

1. What characteristics of tankers are important in assigning missions to tankers?
2. What are the types of tankers available for operations?
3. What is the best method to add the multiple tanker capability to the model?
4. What is the best technique to assign tankers groups to offload required for receivers?

1.6 Scope

The scope of this research project is limited to adding the multiple tanker type capability to the Tanker Employment Model. It is expected that modifying the model will result in a tool that will be used for planning tanker employment.

1.7 Implications

This research provides a useful, simple, efficient rough-cut tool to assist planners in tanker employment operations. This tool may provide insight into other fueling operations involving multiple fueling locations and multiple users.

II. Literature Review

2.1 Research Question 1: Tanker characteristics

What characteristics of tankers are important in assigning missions to tankers on employment missions?

The USAF recently identified the key characteristics of tankers when they solicited bids for a new tanker to support the USAF. They evaluated the two contenders using objective measurements, called Key Performance Parameters, and subjective ones, called Factors.

Factors:

1. Mission capability (key system requirements, system integration software, product support, program management, technology maturity and demonstration)
2. Risk
3. Past performance
4. Price, lifecycle cost
5. Integrated fleet refueling assessments

Key Performance Parameters

1. Air refueling capability
2. Fuel offload and range at least as great as the KC-135
3. Compliant Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) equipment
4. Airlift capability

5. Ability to take on fuel while airborne
6. Sufficient force protection measures
7. Ability to network into the information available in the battle space
8. Survivability measures (defensive systems, Electro-Magnetic Pulse (EMP) hardening, chemical/biological protection, etc.)
9. Provisioning for a multipoint refueling system to support Navy and allied aircraft. (DefenseNews, 2008)

More detailed characteristics support the above Factors and Key Performance Parameters. These include, speed, range, maximum takeoffweight, maximum transfer fuel rate, fuel burn rate, maximum cargo weight, maximum passengers, maximum pallets, minimum runway required, and cost per plane.

2.2 Research Question 2: What are the types of tankers available for operations?

The USAF recently awarded a contract to Northrop Grumman / EADS to build 179 tankers. When the first Northrop Grumman / EADS tanker KC-45 is assigned to the USAF in will bring the total count of USAF tanker models to three. Boeing has contested the award of the 179 tanker contract to Northrop Grumman / EADS and it is possible that the contract award could be overturned. Japan and Italy has already ordered the Boeing KC-767 tanker to support their air forces and it is possible that other allies will also purchase the Boeing KC-767. (Boeing, 2008) It is probable that our allies will continue to be our allies and that they will continue to support and fight alongside us. Therefore, it is likely in the near future that USAF tanker planners will be conducting

missions with at least the following four main tanker types, the KC-135, KC-10, KC-45 and the KC-767. Russian and other smaller U.S. tankers may also be used, but most likely will only be used in limited amounts. The below tanker data and information shows some of the differences between tanker types.

Table 1. Tanker Data

Tanker	Co.	Speed mph	Range	Max Take off (lbs)	Max Off-load Avail.	Cargo	Pax	Pallets	Cost $	Inv
KC-135	Boeing	530	1500m	322,500	200,000	83K lbs	37	6	40	530
KC-10	Boeing	619	4400m		356,000	170 K	75	27	88	59
KC-45	Northrop				300,000 +		280	32	$	0
KC-767	Boeing			400K+	202,000 +		190	19	$	0
MC-130	Lockheed	300	2700nm	155K	helos		77			30
F/A 18	McDonnell	M1.8	1275	66K	Fighter	n/a	n/a		57	

Source: (Factsheets, 2008)

These differences make some tankers more useful than others for certain missions.

2.3 Tanker Type Comparisons and Missions

The KC-135 was first deployed in 1956 and is slower, less efficient, transfers the smallest maximum amount of fuel and is least dependable compared to all other tankers. When other aircraft, pilots and ground support is available another tanker should be chosen. The only exception to this is when the probability of being shot down is high,

the KC-135 should then be chosen because they are most expendable and the pilots can be easily replaced by a significant tanker pilot inventory.

The KC-10, which began service in 1981, carries the largest amount of fuel and will continue to carry the largest amount of fuel after the KC-767 and KC-45 enter service. The KC-10 has a significant higher fuel burn rate than all other tankers and thus is best suited for short and quick refueling missions. It will remain the ideal choice of planners to use for missions of refueling other tankers and heavy bombers at short distance from base. The KC-10 also has the second highest pallet capacity and is best used when maximum cube capacity is reached before maximum weight is reached. Another negative of the KC-10 is that it is older and will have an expected lower operational rate than the newer tankers.

The Northrop Grumman / EADS KC-45 is the best aircraft for tanker employment missions that require a large amount of fuel or cargo to be transported, and fuel conservation is not an issue. Although it carries less fuel than the KC-10 its burn rate is less and may have more fuel available for offload at the fuel transfer point. The KC-45 carries significantly more fuel, cargo, passengers and pallets than the KC-767. The KC-45 will be the tanker planner's first choice on long round trip missions that require large amounts of fuel to be transferred on missions such as cargo and heavy bomber missions.

The Boeing KC-767 can access more runways in the world due to its shorter minimum required runway and smaller footprint which leads to a larger Maximum On Ground (MOG) number. These advantages will lead planners to choose this tanker for missions that are fought by a few fighter aircraft in an isolated part of the world. Another

key advantage of the KC-767 is its fuel efficiency. It has the lowest burn rate and therefore may become the tanker of choice when fuel supplies are limited.

III. Methodology

3.1 Introduction

To obtain the approximate number of required tankers by airframe, planners divide a tanker mission by a set number to ascertain how many receivers can be refueled. For instance, to determine the number of aircraft sorties which can be refueled by a KC-10, the number of tankers is divided by 5.6 (18%); to determine the same for a KC-135, the number is divided by 4 or 5. (CWS 401, 2004:2-3). However, these round estimates do not take into account any variables such as available aircrew, in flight refueling of the tanker or base support. (Romero, 2006)

The new Tanker Employment Model provides the capability to use multiple tankers in the model's calculation. The model also provides a limited capability to compare multiple bases. No changes were made to the original formulas of the Tanker Employment Model.

3.2 Assumptions

1. Assumptions:
    a. The Tanker Employment Model accurately models tanker operations except for the use of multiple tanker types.
    b. The Tanker Employment Model assumes that the fuel requirement is one receiver "super" aircraft in need of the total fuel requirement. No calculations are made concerning fuel flow or offload times. Tankers arrive at the offload site, stay a predetermined amount of time, offload all fuel required during that time and then return to base.

c. The KC-767 and KC-30 will be acquired with the promised capabilities and capacities.
d. You may use up to three bases, but bases may have only one type of tanker operating at that base.
e. Many details are not incorporated into the calculations. Some of these factors include altitude flown, winds, and effects of gross weight on fuel consumption.

2. Limitations:
    a. Project is due by May 2008.
    b. Zero funding assigned for research.
    c. One researcher working on project.

3.3 Research Question 3: What is the best method to add the multiple tanker capability to the model?

One method considered to add this capability was to use programming software such as Java which would interface with the TEM. Java is more powerful than VBA and would provide the ability to be more creative with user forms and other customer centric capabilities. Three drawbacks are inherent in this method. First, not all government computers are Java enabled or users are not allowed to use all the functions available with Java. The second drawback was that there appeared to be a long learning curve for using Java. This long learning curve impacts two individuals, the author and the ultimate end user. I did not have the available time to learn this new computer programming

language and the average tanker mission planner would also not have the resources available to learn a new computer programming language to make any additions or corrections that the end user will want to make. The third drawback is the inherent problems that arise when any two programs are merged to create one tool. Potential compatibility issues are to be avoided whenever possible if there is an effective alternative available.

Another method considered was to begin from scratch and create an entirely new TEM built to handle multiple tankers. This method is attractive because a programmer is able to create a basic framework that is capable of handling the multiple tanker requirements. Code, variable names, user forms, reports and formula can be developed simply and efficiently. An original model avoids the problems of deciphering what a previous programmer meant in writing code and does not hinder or constrain the alternatives available to programming. There are many ways to code, structure and formulate a problem/program and beginning from scratch enables the programmer to exploit the best possible alternative.

The final method was considered the best and was implemented in this GRP. Modifying the original TEM using only Excel VBA was chosen for three reasons. First, given limited resources one should not create a new program if a current program is working and meeting all the needs of the user. The original TEM was thoroughly tested and validated to be an effective tool in meeting the requirements, therefore there appeared to be little reason to recreate an entirely new program. Secondly, after reviewing the

Tanker Employment Model (TEM) it was believed that the model could be expanded to provide a multiple tanker capacity and enhanced to provide a method to select the best tanker. The final reason for modifying the TEM was that it was based on a well known and widely used and available program, Excel VBA. This common programming language and program ensures that future modification and corrections can easily be made by future tanker planners or other students at the Air Force Institute of Technology or other institutes.

3.4 Formula Construction

1. The formulas used in the basic Tanker Employment Model are located in Maj. Margaret M. Romero's thesis "Algebra of Tankers" at the Air Force Institute of Technology. This thesis was completed in March 2006.

2. Below is the formula used to calculate the number of missions required when using multiple tankers.

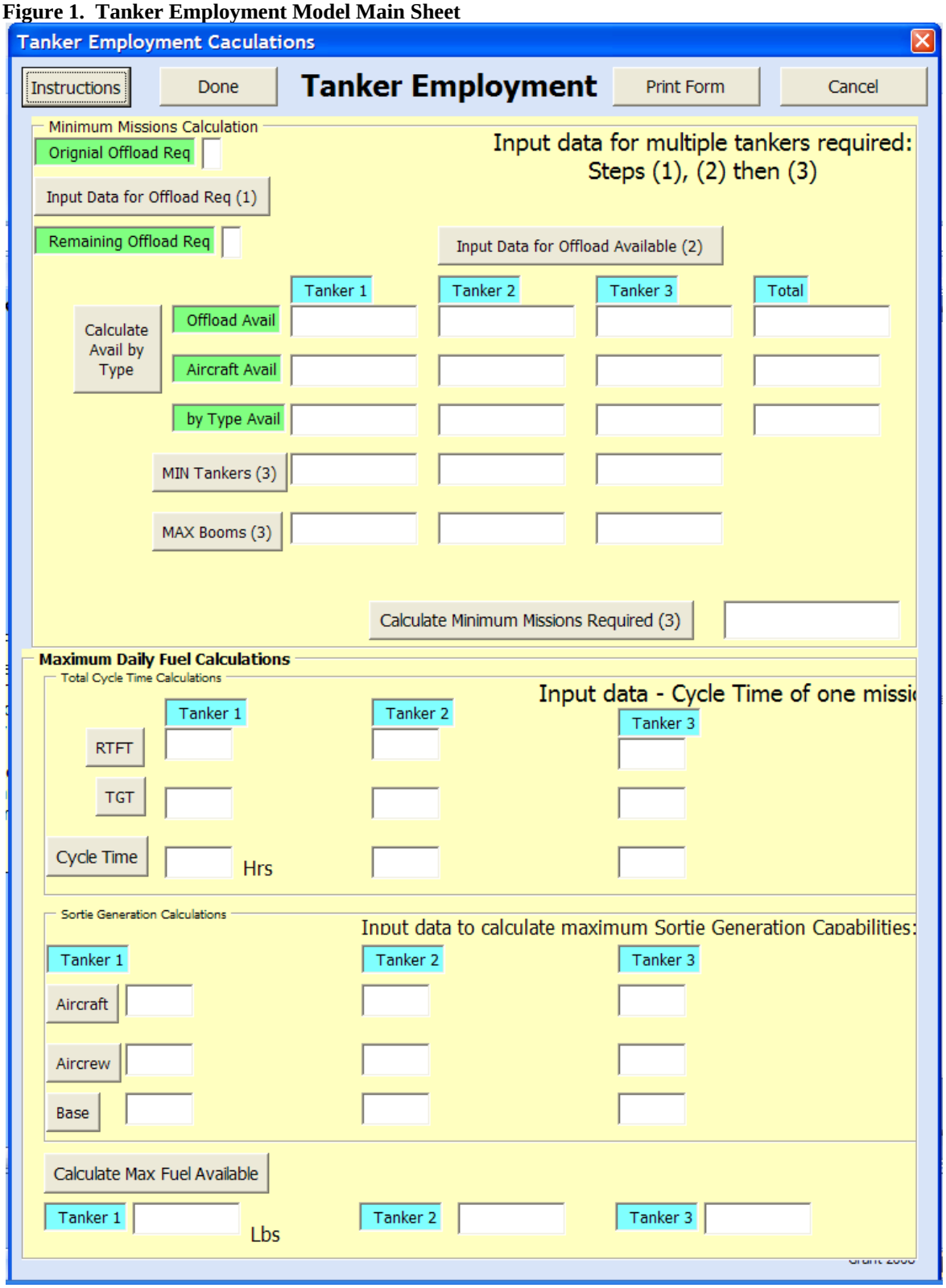
$$number\ of\ tanker\ missions = \frac{\sum_{r=1}\sum_{n=1} off\ load\ required_{rn}}{\sum_{t=1}\sum_{n=1} off\ load\ available_{tn}}$$

r = receiver type
t = tanker type
n = number of aircraft
r, t, n = integers

3.5 Tanker Employment Model Modifications

The main user form of the TEM, the Tanker Employment Calculations sheet provides the capability to compare of three tanker groups simultaneously. Previously only one tanker from one base was considered in all the tanker employment calculations. Now three different tankers groups, with different numbers of tanker aircraft coming from three different bases can simultaneously be evaluated to choose the best tanker group for two different mission types. This is a significant enhancement that provides the user with an increased capability in evaluating the multiple tanker types available for a tanker employment mission. The below screen capture of the main sheet is provided to enable better understanding.

Figure 1. Tanker Employment Model Main Sheet



The offload available data blocks are pulled from another sheet when the user clicks on the “Input Data for Offload Available (2)” button. This captures data that was calculated in another screen and which will be described after this section. The user then manually inputs data into the “Aircraft Avail” blocks as currently experienced. This data is used with the “Offload Avail” block to calculate the number of aircraft sorties needed to fulfill one of two mission types. If the best tanker group does not have enough tankers available to meet the “Minimum Offload Req” block the TEM will automatically choose the second best until the second best tanker group has no aircraft available. If the third best tanker group fails to meet the requirement the TEM will display that the current asset mix is unable to meet the required minimum offload required.

3.6 Research Question 4: What is the best technique to assign tanker groups to offload required for receivers?

One technique to assign tanker groups to offload required for receivers is to write computer programming code. This technique would result in an efficient method in using VBA and the time required for a programmer to modify this code would be minimal. The major drawback to this method is that any user in the future would need to know computer programming in order to modify or correct the TEM.

The best technique to assign tankers groups to offload required for receivers for the TEM is to use the “IF” “Then” capability of VBA to choose the best tanker groups. The method of using “IF” “Then” statements is more commonly known and thus can be

easier understood by future users. Below is a simple algorithm for choosing the best tanker mix when minimizing tankers:

1. Read all tankers' available fuel quantity.
2. Read all tankers' aircraft availability count.
3. Read offload required quantity.
4. Chose tanker with greatest fuel availability.
5. Are there tankers of this type available to support the mission?
    a. If yes, then reduce offload required by offload available for this tanker and repeat step 2 until mission completed.
    b. If no, repeat step 1 with the remaining tankers.
6. If no tankers available notify user that they are unable to meet mission requirements with the current assets.

The algorithm to maximize "booms" is similar to the algorithm to minimize tankers and is presented below:

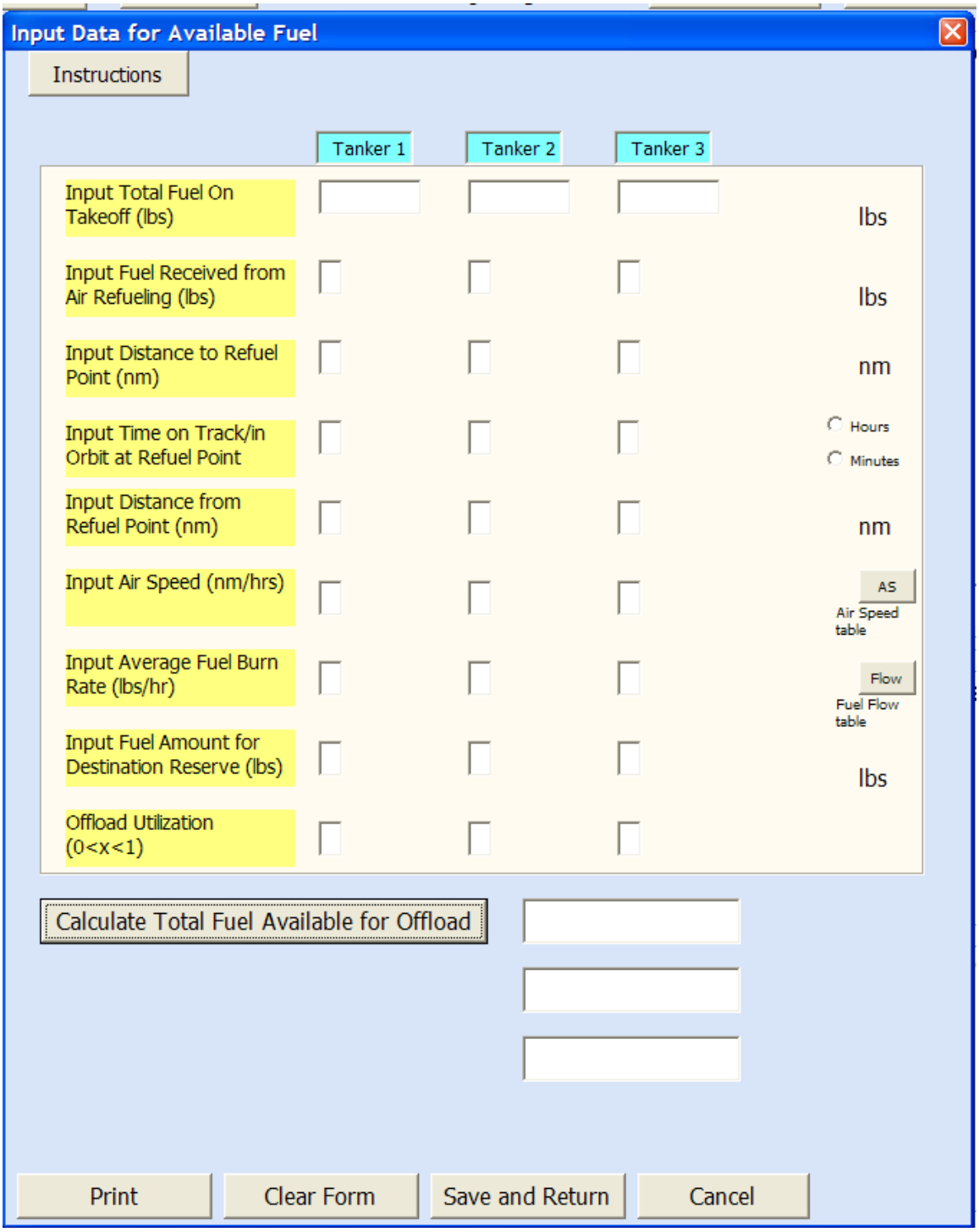
1. Read all tankers' available fuel quantity.
2. Read all tankers' aircraft availability count.
3. Read offload required quantity.
4. Chose tanker with smallest fuel availability.
5. Are there tankers of this type available to support the mission?
    a. If yes, then reduce offload required by offload available for this tanker and repeat step 2 until mission completed.
    b. If no, repeat step 1 with the remaining tankers.

6. If no tankers available notify user that they are unable to meet mission requirements with the current assets.

3.7 Input Data for Available Fuel

Like the other ten user input forms and associated code the “Input Data for Available Fuel” user form is modified to accommodate two additional tanker groups. No new formulas are needed but all the code had to be understood and modified to provide the ability to use multiple tanker groups. The form and the more interesting part of the code to modify this form are included below.

Figure 2. Input Data for Available Fuel



Maj. Romero's method to calculate "Fuel Available for Offload" was expanded to three tankers. This involved Excel VBA code changes and a new user form configuration. The flow chart for this method is below.

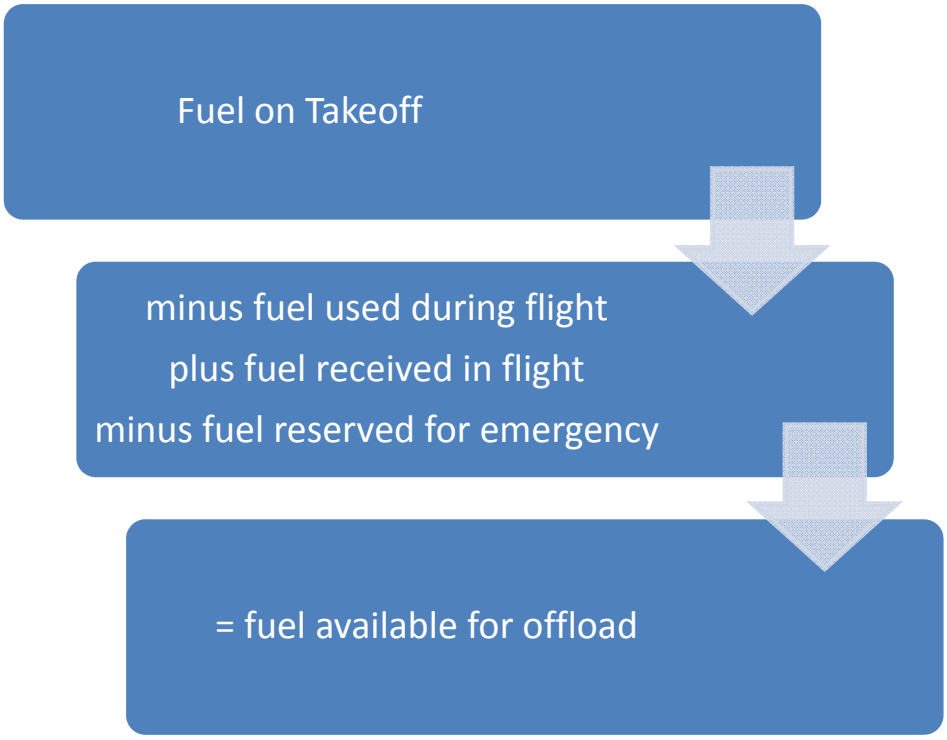


Figure 3. Flow chart of fuel available calculation

3.8 Visual Basic with Applications (VBA)

Visual Basic with Applications (VBA) is Microsoft's common scripting language used in a variety of Microsoft Office applications, as well other applications from other vendors. One feature of VBA is the ability to create user forms – custom dialog boxes which allow for easy data entry. (Romero, 2006)

Three reasons were instrumental in selecting to use VBA in Excel to develop the tanker employment model. First, AMC desired an easy to use tool (as the current tool,

CMARPS is widely known for being difficult to learn and use). Secondly, Excel is one of the standard software applications in many offices; so many Air Force members have some familiarity with the Excel platform. Last, many of the tanker tools recently developed were also Excel based projects coded in VBA. (Romero, 2006)

The multiple tankers capability and other modifications to the original model were made using Excel 2007 VBA.

IV. Results and Analysis

4.1 Introduction

The Tanker Employment Model provides the ability to use multiple tankers in the calculations. This modification also enables the ability to do simple multiple base comparisons. The model calculates the number and type of tanker needed to meet a required user inputted mission by maximizing the number of booms available or by minimizing the number of tanker aircraft used.

4.2 Model Verification

The New Tanker Employment Model and the original Tanker Employment Model provide the same output for one tanker when the inputs are the same. This verifies that the original capabilities were not lost in the modification. The below scenarios with TEM results and manual calculation results tested the multiple tanker TEM calculations.

Table 2. Verification with multiple scenarios

Scenario 1: Minimize Tankers, Offload Required = 10001, Aircraft Avail by type = 5

Tanker Type	*Offload Available*	*Aircraft Used by TEM*	*Aircraft Used by Manual Calc*	*Order Chosen TEM/Manual*
1	1000	0	0	3
2	1100	4	4	2
3	1200	5	5	1

Scenario 2: Maximize Booms, Offload Required = 10001, Aircraft Avail by type = 5

Tanker Type	*Offload Available*	*Aircraft Used by TEM*	*Aircraft Used by Manual Calc*	*Order Chosen TEM/Manual*
1	1000	5	5	1
2	1100	5	5	2
3	1200	0	0	3

Scenario 3: Minimize Tankers, Offload Required = 10001, Aircraft Avail by type = 5

Tanker Type	*Offload Available*	*Aircraft Used by TEM*	*Aircraft Used by Manual Calc*	*Order Chosen TEM/Manual*
1	1100	4	4	2
2	1200	5	5	1
3	1000	0	0	3

Scenario 4: Maximize Booms, Offload Required = 10001, Aircraft Avail by type = 5

Tanker Type	*Offload Available*	*Aircraft Used by TEM*	*Aircraft Used by Manual Calc*	*Order Chosen TEM/Manual*
1	1100	5	5	2
2	1200	0	0	3
3	1000	5	5	1

Scenario 5: Minimize Tankers, Offload Required = 10001, Aircraft Avail by type = 4

Tanker Type	*Offload Available*	*Aircraft Used by TEM*	*Aircraft Used by Manual Calc*	*Order Chosen TEM/Manual*
1	1000	1	1	3
2	1100	4	4	2
3	1200	4	4	1

Scenario 6: Maximize Booms, Offload Required = 10001, Aircraft Avail by type = 4

Tanker Type	*Offload Available*	*Aircraft Used by TEM*	*Aircraft Used by Manual Calc*	*Order Chosen TEM/Manual*
1	1000	4	4	1
2	1100	4	4	2
3	1200	1	1	3

Scenario 7: Minimize Tankers, Offload Required = 10001, Aircraft Avail by type = 4

Tanker Type	*Offload Available*	*Aircraft Used by TEM*	*Aircraft Used by Manual Calc*	*Order Chosen TEM/Manual*
1	1200	4	4	1
2	1000	1	1	3
3	1100	4	4	2

Scenario 8: Maximize Booms, Offload Required = 10001, Aircraft Avail by type = 4

Tanker Type	*Offload Available*	*Aircraft Used by TEM*	*Aircraft Used by Manual Calc*	*Order Chosen TEM/Manual*
1	1200	1	1	3
2	1000	4	4	1
3	1100	4	4	2

Scenario 9: Minimize Tankers, Offload Required = 10001, Aircraft Avail by type = 4

Tanker Type	*Offload Available*	*Aircraft Used by TEM*	*Aircraft Used by Manual Calc*	*Order Chosen TEM/Manual*
1	1100	4	4	2
2	1200	4	4	1
3	1000	1	1	3

Scenario 10: Maximize Booms, Offload Required = 10001, Aircraft Avail by type = 4

Tanker Type	*Offload Available*	*Aircraft Used by TEM*	*Aircraft Used by Manual Calc*	*Order Chosen TEM/Manual*
1	1100	4	4	2
2	1200	1	1	3
3	1000	4	4	1

The above scenarios were developed to test each possible order of selection of the three tanker choices. The TEM and manual output were the same for the order of tanker

selection and the number of each tanker. This verifies that the model is working as designed.

4.6 Conclusion

The new Tanker Employment Model provides the ability to use multiple tankers while calculating mission requirements. This capability provides a more realistic estimate of current and future tanker operations.

4.6 Limitations

The new model only gives the user the ability to maximize or minimize the number of tankers used on a mission. The decision of which tanker to choose first does not take into consideration fuel used, time required for mission, bases available or aircrew available. The sole criterion used is fuel available at refueling point.

V. Conclusions and Recommendations

5.1 Conclusions and Contributions

This chapter discusses conclusions and contribution produced by this research and suggestions for future research.

Choosing a GRP topic that builds on the work of another student's work is a good idea because it reduces the time needed to search for a topic, enables past research to continue and demonstrates the value of teamwork.

Modifying a program developed by another user is made easier when the developer makes detailed notes on how and why a procedure is executed. A well documented and organized model/program saves future programmers significant time and energy in modifying the program in the future.

This GRP has demonstrated that a basic model can be expanded into a more robust model. Maj. Romero's decision to use Visual Basic for Applications (VBA) within Excel was based on that it would be portable within the Air Force. VBA is a powerful tool that should be taught to more officers in DoD. It is a tool that will be used often in the future by military personnel who desire to build, optimize and improve useful programs.

The author had not used VBA before this GRP. It was a tedious process to learn how to operate and program VBA. It would have been nice to take a basic VBA course to learn the fundamentals of the programming language. The user help menu was of some value, but information was often needed. There were several instances when the program did not display the correct "answer" even though the logic was sound; this was

often due to a wrong variable designation. This was frustrating and time consuming because my logic was correct, but the VBA format was not correct.

One limitation and strength of VBA is its reliance on "preprogrammed" commands and forms. This makes "programming" easier, but it limits your creativity in designing forms and unique procedures.

This new tool provides greater fidelity into the tanker employment mission. The model now has the ability to model multiple tankers at one time. The method used to choose between multiple alternatives can be used in other programs and decisions in the future.

5.2 Recommendations for Future Research

The Tanker Employment Model could be expanded to consider multiple receiver groups and increased maintenance capabilities. Another possible expansion would be to modify the model to choose the best base of three base choices. A final area of possible research would be to develop a better and more detailed method of selecting a tanker.

Keeping the TEM model simple and uncluttered will be a challenge with any of the recommended research areas. If the model becomes too complicated it will be shunned by tanker planners. Another challenge in developing a single area in TEM is that all areas are linked in some way and modifying one area of TEM will often lead to the need to modify all areas.

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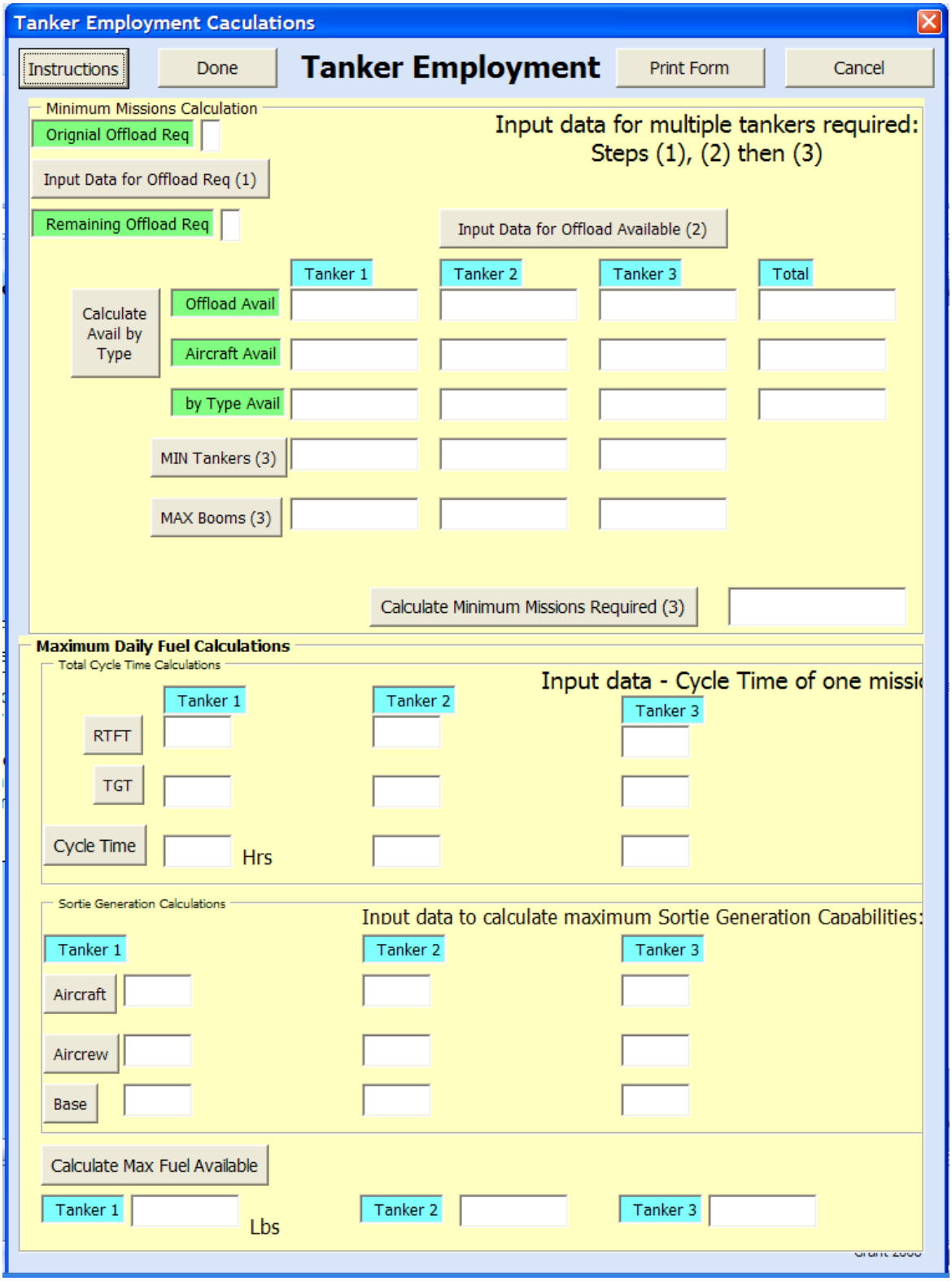
Appendix A.




```
Option Explicit
```

```
    Dim ws As Worksheet, BoxCheck As Integer, TempOffloadReq As String, Result As
Integer

Private Sub BoomMissionReqbox_Change()

End Sub

Private Sub Aircraftct_Change()

End Sub

Private Sub aircraftusedBox3b_Change()

End Sub

Private Sub calcmaxtankers_Click()

    Dim maxbooms As Integer, missionsreq1 As Currency, aircraftused1 As Currency, _
    missionsreq2 As Currency, aircraftused2 As Currency, _
    missionsreq3 As Currency, aircraftused3 As Currency

'resets values
    aircraftusedBox1f = 0
    aircraftusedBox2f = 0
    aircraftusedBox3f = 0
    missionsreq1 = 0
    missionsreq2 = 0
    missionsreq2 = 0

    missionsreq1 = OffloadReqBox / OffloadAvailBox
    missionsreq2 = OffloadReqBox / OffloadAvailBox2
    missionsreq3 = OffloadReqBox / OffloadAvailBox3



'Calculates Minimum Tankers needed  to meet fuel offload required


    If missionsreq1 > missionsreq2 Then ' 1st phase
       If missionsreq1 > missionsreq3 Then
       ' aircraftcount calculaton
          If missionsreq1 < aircraft1count Then
          aircraftusedBox1f = missionsreq1

          Else: aircraftusedBox1f = aircraft1count
          End If
```

```
        OffloadReqBox = OffloadReqBox - (aircraftusedBox1f * OffloadAvailBox)

        missionsreq2 = OffloadReqBox / OffloadAvailBox2
        missionsreq3 = OffloadReqBox / OffloadAvailBox3

           If missionsreq2 > missionsreq3 Then
              If missionsreq2 < aircraft2count Then
              aircraftusedBox2f = missionsreq2

              Else: aircraftusedBox2f = aircraft2count
              End If

              OffloadReqBox = OffloadReqBox - (aircraftusedBox2f *
OffloadAvailBox2)

              missionsreq3 = OffloadReqBox / OffloadAvailBox3

                 If missionsreq3 < aircraft3count Then
                    aircraftusedBox3f = missionsreq3
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox3f *
OffloadAvailBox3)

                 Else: aircraftusedBox3f = aircraft3count
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox3f *
OffloadAvailBox3)
                    MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                 End If

           ElseIf missionsreq3 > missionsreq2 Then

              If missionsreq3 < aircraft3count Then
              aircraftusedBox3f = missionsreq3

              Else: aircraftusedBox3f = aircraft3count
              End If

              OffloadReqBox = OffloadReqBox - (aircraftusedBox3f *
OffloadAvailBox3)

              missionsreq2 = OffloadReqBox / OffloadAvailBox2

                 If missionsreq2 < aircraft2count Then
                    aircraftusedBox2f = missionsreq2
```

```
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox2f *
OffloadAvailBox2)

                Else: aircraftusedBox2f = aircraft2count
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox2f *
OffloadAvailBox2)
                    MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                End If
            End If  'check this END IF

      ElseIf missionsreq3 > missionsreq1 Then

         ' aircraftcount calculation
         If missionsreq3 < aircraft3count Then
         aircraftusedBox3f = missionsreq3

         Else: aircraftusedBox3f = aircraft3count
         End If


         OffloadReqBox = OffloadReqBox - (aircraftusedBox3f * OffloadAvailBox3)

         missionsreq1 = OffloadReqBox / OffloadAvailBox
         missionsreq2 = OffloadReqBox / OffloadAvailBox2

            If missionsreq1 > missionsreq2 Then
               If missionsreq1 < aircraft1count Then
               aircraftusedBox1f = missionsreq1

               Else: aircraftusedBox1f = aircraft1count
               End If

               OffloadReqBox = OffloadReqBox - (aircraftusedBox1f * OffloadAvailBox)

               missionsreq2 = OffloadReqBox / OffloadAvailBox2

                  If missionsreq2 < aircraft2count Then
                     aircraftusedBox2f = missionsreq2
                     OffloadReqBox = OffloadReqBox - (aircraftusedBox2f *
OffloadAvailBox2)

                  Else: aircraftusedBox2f = aircraft2count
                     OffloadReqBox = OffloadReqBox - (aircraftusedBox2f *
OffloadAvailBox2)
```

```
                    MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                End If

            End If

        End If

    ElseIf missionsreq2 > missionsreq1 Then '2nd phase
        If missionsreq2 > missionsreq3 Then
      ' aircraftcount calculaton
        If missionsreq2 < aircraft2count Then
        aircraftusedBox2f = missionsreq2

        Else: aircraftusedBox2f = aircraft2count
        End If


        OffloadReqBox = OffloadReqBox - (aircraftusedBox2f * OffloadAvailBox2)

        missionsreq1 = OffloadReqBox / OffloadAvailBox
        missionsreq3 = OffloadReqBox / OffloadAvailBox3

           If missionsreq1 > missionsreq3 Then
              If missionsreq1 < aircraft1count Then
              aircraftusedBox1f = missionsreq1

              Else: aircraftusedBox1f = aircraft1count
              End If

              OffloadReqBox = OffloadReqBox - (aircraftusedBox1f * OffloadAvailBox)

              missionsreq3 = OffloadReqBox / OffloadAvailBox3

                 If missionsreq3 < aircraft3count Then
                    aircraftusedBox3f = missionsreq3
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox3f *
OffloadAvailBox3)

                 Else: aircraftusedBox3f = aircraft3count
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox3f *
OffloadAvailBox3)
                    MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                End If
```

```
        ElseIf missionsreq3 > missionsreq1 Then

            If missionsreq3 < aircraft3count Then
            aircraftusedBox3f = missionsreq3

            Else: aircraftusedBox3f = aircraft3count
            End If

            OffloadReqBox = OffloadReqBox - (aircraftusedBox3f *
OffloadAvailBox3)

            missionsreq1 = OffloadReqBox / OffloadAvailBox

               If missionsreq1 < aircraft1count Then
                  aircraftusedBox1f = missionsreq1
                  OffloadReqBox = OffloadReqBox - (aircraftusedBox1f *
OffloadAvailBox)

               Else: aircraftusedBox1f = aircraft1count
                  OffloadReqBox = OffloadReqBox - (aircraftusedBox1f *
OffloadAvailBox)
                  MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
               End If
            End If  'check this END IF

      ElseIf missionsreq3 > missionsreq2 Then

         ' aircraftcount calculaton
         If missionsreq3 < aircraft3count Then
         aircraftusedBox3f = missionsreq3

         Else: aircraftusedBox3f = aircraft3count
         End If



         OffloadReqBox = OffloadReqBox - (aircraftusedBox3f * OffloadAvailBox3)

         missionsreq1 = OffloadReqBox / OffloadAvailBox
         missionsreq2 = OffloadReqBox / OffloadAvailBox2

            If missionsreq2 > missionsreq1 Then
               If missionsreq2 < aircraft2count Then
               aircraftusedBox2f = missionsreq2
```

```
            Else: aircraftusedBox2f = aircraft2count
            End If

            OffloadReqBox = OffloadReqBox - (aircraftusedBox2f *
OffloadAvailBox2)

            missionsreq1 = OffloadReqBox / OffloadAvailBox

               If missionsreq1 < aircraft1count Then
                  aircraftusedBox1f = missionsreq1
                  OffloadReqBox = OffloadReqBox - (aircraftusedBox1f *
OffloadAvailBox)

               Else: aircraftusedBox1f = aircraft1count
                  OffloadReqBox = OffloadReqBox - (aircraftusedBox1f *
OffloadAvailBox)
                  MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
               End If

   End If
   End If
   End If

End Sub

Private Sub calcmintankers_Click()

   Dim maxbooms As Integer, missionsreq1 As Currency, aircraftused1 As Currency, _
   missionsreq2 As Currency, aircraftused2 As Currency, _
   missionsreq3 As Currency, aircraftused3 As Currency

'resets values
   aircraftusedBox1b = 0
   aircraftusedBox2b = 0
   aircraftusedBox3b = 0
   missionsreq1 = 0
   missionsreq2 = 0
   missionsreq2 = 0

   missionsreq1 = OffloadReqBox / OffloadAvailBox
   missionsreq2 = OffloadReqBox / OffloadAvailBox2
   missionsreq3 = OffloadReqBox / OffloadAvailBox3
```

```
'Calculates Minimum Tankers needed  to meet fuel offload required


   If missionsreq1 < missionsreq2 Then ' 1st phase
      If missionsreq1 < missionsreq3 Then
      ' aircraftcount calculaton
         If missionsreq1 < aircraft1count Then
         aircraftusedBox1b = missionsreq1

         Else: aircraftusedBox1b = aircraft1count
         End If


         OffloadReqBox = OffloadReqBox - (aircraftusedBox1b * OffloadAvailBox)

         missionsreq2 = OffloadReqBox / OffloadAvailBox2
         missionsreq3 = OffloadReqBox / OffloadAvailBox3

            If missionsreq2 < missionsreq3 Then
               If missionsreq2 < aircraft2count Then
               aircraftusedBox2b = missionsreq2

               Else: aircraftusedBox2b = aircraft2count
               End If

               OffloadReqBox = OffloadReqBox - (aircraftusedBox2b *
OffloadAvailBox2)

               missionsreq3 = OffloadReqBox / OffloadAvailBox3

                  If missionsreq3 < aircraft3count Then
                     aircraftusedBox3b = missionsreq3
                     OffloadReqBox = OffloadReqBox - (aircraftusedBox3b *
OffloadAvailBox3)

                  Else: aircraftusedBox3b = aircraft3count
                     OffloadReqBox = OffloadReqBox - (aircraftusedBox3b *
OffloadAvailBox3)
                     MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                  End If

            ElseIf missionsreq3 < missionsreq2 Then

               If missionsreq3 < aircraft3count Then
               aircraftusedBox3b = missionsreq3
```

```
            Else: aircraftusedBox3b = aircraft3count
            End If

            OffloadReqBox = OffloadReqBox - (aircraftusedBox3b *
OffloadAvailBox3)

            missionsreq2 = OffloadReqBox / OffloadAvailBox2

               If missionsreq2 < aircraft2count Then
                  aircraftusedBox2b = missionsreq2
                  OffloadReqBox = OffloadReqBox - (aircraftusedBox2b *
OffloadAvailBox2)

               Else: aircraftusedBox2b = aircraft2count
                  OffloadReqBox = OffloadReqBox - (aircraftusedBox2b *
OffloadAvailBox2)
                  MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
               End If
         End If  'check this END IF

   ElseIf missionsreq3 < missionsreq1 Then

      ' aircraftcount calculaton
      If missionsreq3 < aircraft3count Then
      aircraftusedBox3b = missionsreq3

      Else: aircraftusedBox3b = aircraft3count
      End If


      OffloadReqBox = OffloadReqBox - (aircraftusedBox3b * OffloadAvailBox3)

      missionsreq1 = OffloadReqBox / OffloadAvailBox
      missionsreq2 = OffloadReqBox / OffloadAvailBox2

         If missionsreq1 < missionsreq2 Then
            If missionsreq1 < aircraft1count Then
            aircraftusedBox1b = missionsreq1

            Else: aircraftusedBox1b = aircraft1count
            End If

            OffloadReqBox = OffloadReqBox - (aircraftusedBox1b * OffloadAvailBox)
```

```
            missionsreq2 = OffloadReqBox / OffloadAvailBox2

               If missionsreq2 < aircraft2count Then
                  aircraftusedBox2b = missionsreq2
                  OffloadReqBox = OffloadReqBox - (aircraftusedBox2b *
OffloadAvailBox2)

               Else: aircraftusedBox2b = aircraft2count
                  OffloadReqBox = OffloadReqBox - (aircraftusedBox2b *
OffloadAvailBox2)
                  MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
               End If

         End If

      End If

   ElseIf missionsreq2 < missionsreq1 Then '2nd phase
      If missionsreq2 < missionsreq3 Then
    ' aircraftcount calculaton
      If missionsreq2 < aircraft2count Then
      aircraftusedBox2b = missionsreq2

      Else: aircraftusedBox2b = aircraft2count
      End If


      OffloadReqBox = OffloadReqBox - (aircraftusedBox2b * OffloadAvailBox2)

      missionsreq1 = OffloadReqBox / OffloadAvailBox
      missionsreq3 = OffloadReqBox / OffloadAvailBox3

         If missionsreq1 < missionsreq3 Then
            If missionsreq1 < aircraft1count Then
            aircraftusedBox1b = missionsreq1

            Else: aircraftusedBox1b = aircraft1count
            End If

            OffloadReqBox = OffloadReqBox - (aircraftusedBox1b * OffloadAvailBox)

            missionsreq3 = OffloadReqBox / OffloadAvailBox3

               If missionsreq3 < aircraft3count Then
                  aircraftusedBox3b = missionsreq3
```

```
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox3b *
OffloadAvailBox3)

                Else: aircraftusedBox3b = aircraft3count
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox3b *
OffloadAvailBox3)
                    MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                End If

            ElseIf missionsreq3 < missionsreq1 Then

                If missionsreq3 < aircraft3count Then
                aircraftusedBox3b = missionsreq3

                Else: aircraftusedBox3b = aircraft3count
                End If

                OffloadReqBox = OffloadReqBox - (aircraftusedBox3b *
OffloadAvailBox3)

                missionsreq1 = OffloadReqBox / OffloadAvailBox

                    If missionsreq1 < aircraft1count Then
                        aircraftusedBox1b = missionsreq1
                        OffloadReqBox = OffloadReqBox - (aircraftusedBox1b *
OffloadAvailBox)

                    Else: aircraftusedBox1b = aircraft1count
                        OffloadReqBox = OffloadReqBox - (aircraftusedBox1b *
OffloadAvailBox)
                        MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                    End If
                End If  'check this END IF

        ElseIf missionsreq3 < missionsreq2 Then

            ' aircraftcount calculaton
            If missionsreq3 < aircraft3count Then
            aircraftusedBox3b = missionsreq3

            Else: aircraftusedBox3b = aircraft3count
            End If
```

```
        OffloadReqBox = OffloadReqBox - (aircraftusedBox3b * OffloadAvailBox3)

        missionsreq1 = OffloadReqBox / OffloadAvailBox
        missionsreq2 = OffloadReqBox / OffloadAvailBox2

           If missionsreq2 < missionsreq1 Then
              If missionsreq2 < aircraft2count Then
              aircraftusedBox2b = missionsreq2

              Else: aircraftusedBox2b = aircraft2count
              End If

              OffloadReqBox = OffloadReqBox - (aircraftusedBox2b *
OffloadAvailBox2)

              missionsreq1 = OffloadReqBox / OffloadAvailBox

                 If missionsreq1 < aircraft1count Then
                    aircraftusedBox1b = missionsreq1
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox1b *
OffloadAvailBox)

                 Else: aircraftusedBox1b = aircraft1count
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox1b *
OffloadAvailBox)
                    MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                 End If

   End If
   End If
   End If

End Sub




Private Sub CmdCalcAircraftInt_Click()
' First checks to ensure user has entered Cycle Time, required for calculations
   With CycleTimeBox
      If .Value = "" Or Not IsNumeric(.Value) Then
```

```
            MsgBox "The Cycle Time is required to calculate Sortie Generation Capablity for
aircraft, " _
               & "please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        CycleTime = CycleTimeBox
        If CycleTime < 0 Then
            MsgBox "The Cycle Time is required to calculate Sortie Generation Capablity for
aircraft, " _
               & "please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With

    With CycleTimeBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Cycle Time is required to calculate Sortie Generation Capablity for
aircraft, " _
               & "please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        CycleTime2 = CycleTimeBox2
        If CycleTime2 < 0 Then
            MsgBox "The Cycle Time is required to calculate Sortie Generation Capablity for
aircraft, " _
               & "please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With

    With CycleTimeBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Cycle Time is required to calculate Sortie Generation Capablity for
aircraft, " _
               & "please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        CycleTime3 = CycleTimeBox3
        If CycleTime3 < 0 Then
            MsgBox "The Cycle Time is required to calculate Sortie Generation Capablity for
aircraft, " _
```

```
            & "please enter a nonnegative value."
          .SetFocus
          Exit Sub
        End If
    End With
' Calls user form to aircraft assigned, NMC and calculate the aircraft generation capability
    InputAircraftIntData.Show
    AircraftInt = RoundNear(AircraftInt, 0.1)
    With AircraftIntBox
        AircraftIntBox = AircraftInt
    End With
    AircraftInt2 = RoundNear(AircraftInt2, 0.1)
    With AircraftIntBox2
        AircraftIntBox2 = AircraftInt2
    End With
    AircraftInt3 = RoundNear(AircraftInt3, 0.1)
    With AircraftIntBox3
        AircraftIntBox3 = AircraftInt
    End With

End Sub


Private Sub CmdCalcAircrewInt_Click()
' First checks to ensure user has entered Round Trip Flying Time, required for
calculations
    With RTFTBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Round Trip Flying Time is required for Sortie Generation
Capablity for aircrew, " _
              & "please enter a nonnumeric value."
          .SetFocus
          Exit Sub
        End If
        RTFT = RTFTBox
        If RTFT < 0 Then
            MsgBox "The Round Trip Flying Time is required for Sortie Generation
Capablity for aircrew, " _
              & "please enter a nonnegative value."
          .SetFocus
          Exit Sub
        End If
    End With

    With RTFTBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
```

```
            MsgBox "The Round Trip Flying Time is required for Sortie Generation
Capablity for aircrew, " _
               & "please enter a nonnumeric value."
            .SetFocus
            Exit Sub
         End If
         RTFT2 = RTFTBox2
         If RTFT2 < 0 Then
            MsgBox "The Round Trip Flying Time is required for Sortie Generation
Capablity for aircrew, " _
               & "please enter a nonnegative value."
            .SetFocus
            Exit Sub
         End If
      End With

      With RTFTBox3
         If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Round Trip Flying Time is required for Sortie Generation
Capablity for aircrew, " _
               & "please enter a nonnumeric value."
            .SetFocus
            Exit Sub
         End If
         RTFT3 = RTFTBox3
         If RTFT < 0 Then
            MsgBox "The Round Trip Flying Time is required for Sortie Generation
Capablity for aircrew, " _
               & "please enter a nonnegative value."
            .SetFocus
            Exit Sub
         End If
      End With

' Calls user form to aircrew assigned, those not available, and the time frame, and
' calculates the aircraft generation capability
      InputAircrewIntData.Show

      AircrewInt = RoundNear(AircrewInt, 0.1)
      With AircrewIntBox
         AircrewIntBox = AircrewInt
      End With

      AircrewInt2 = RoundNear(AircrewInt2, 0.1)
      With AircrewIntBox2
         AircrewIntBox2 = AircrewInt2
```

```
    End With

    AircrewInt3 = RoundNear(AircrewInt3, 0.1)
    With AircrewIntBox3
        AircrewIntBox3 = AircrewInt3
    End With
End Sub


Private Sub CmdCalcAircrewInt2_Click()

End Sub

Private Sub CmdCalcMaxFuelAvail_Click()
    Dim FlowInt As Integer, FlowInt2 As Integer, FlowInt3 As Integer
' Calls Subroutine to check inputs and  ensure users inputs assigned to a variable
    BoxCheck = 0
    Call CheckInputsMaxFuel
    If BoxCheck = 1 Then
        Exit Sub
    End If
'Calculates Flow Interval by finding the minimum of that aircraft, aircrew and station
intervals
    If AircraftInt < AircrewInt Then
        If AircraftInt < BaseInt Then
            FlowInt = AircraftInt
        Else
            FlowInt = BaseInt
        End If
    ElseIf AircrewInt < AircraftInt Then
        If AircrewInt < BaseInt Then
            FlowInt = AircrewInt
        Else
            FlowInt = BaseInt
         End If
    ElseIf BaseInt < AircraftInt Then
        If BaseInt < AircrewInt Then
            FlowInt = BaseInt
        Else
            FlowInt = AircrewInt
        End If
    End If
'tanker2 Calculates Flow Interval by finding the minimum of that aircraft, aircrew and
station intervals
    If AircraftInt2 < AircrewInt2 Then
        If AircraftInt2 < BaseInt2 Then
```

```
            FlowInt2 = AircraftInt2
        Else
            FlowInt2 = BaseInt2
        End If
    ElseIf AircrewInt2 < AircraftInt2 Then
        If AircrewInt2 < BaseInt2 Then
            FlowInt2 = AircrewInt2
        Else
            FlowInt2 = BaseInt2
         End If
    ElseIf BaseInt2 < AircraftInt2 Then
        If BaseInt2 < AircrewInt2 Then
            FlowInt2 = BaseInt2
        Else
            FlowInt2 = AircrewInt2
        End If
    End If
 'tanker3 Calculates Flow Interval by finding the minimum of that aircraft, aircrew and
station intervals
    If AircraftInt3 < AircrewInt3 Then
        If AircraftInt3 < BaseInt3 Then
            FlowInt3 = AircraftInt3
        Else
            FlowInt3 = BaseInt3
        End If
    ElseIf AircrewInt3 < AircraftInt3 Then
        If AircrewInt3 < BaseInt3 Then
            FlowInt3 = AircrewInt3
        Else
            FlowInt3 = BaseInt3
         End If
    ElseIf BaseInt3 < AircraftInt3 Then
        If BaseInt3 < AircrewInt3 Then
            FlowInt3 = BaseInt3
        Else
            FlowInt3 = AircrewInt3
        End If
    End If
' Calculates the Maximum Fuel Available and enters into form and Data Worksheet
    MaxFuelAvail = FlowInt * OffloadAvail
    With MaxFuelAvailBox
        MaxFuelAvailBox = MaxFuelAvail
    End With

' tanker2 Calculates the Maximum Fuel Available and enters into form and Data
Worksheet
```

```
    MaxFuelAvail2 = FlowInt2 * OffloadAvail2
    With MaxFuelAvailBox2
        MaxFuelAvailBox2 = MaxFuelAvail2
    End With

' tanker3 Calculates the Maximum Fuel Available and enters into form and Data
Worksheet
    MaxFuelAvail3 = FlowInt3 * OffloadAvail3
    With MaxFuelAvailBox3
        MaxFuelAvailBox3 = MaxFuelAvail3
    End With
End Sub

Private Sub CmdCalcMissionReq_Click()
' Uses data from Offload Required and Offload Available to calculate the missions
required
' Calls Subroutine to check inputs and  ensure users inputs assigned to a variable
    BoxCheck = 0
    Call CheckInputsMissionReq
    If BoxCheck = 1 Then
        Exit Sub
    End If
' Calculates Mission Required and enters the required, available and missions into the
form and onto the data sheet
    If OffloadAvail = 0 Then
        MsgBox "Can not calculate the number of missions required if the offload available
is 0.  Please enter a number."
        Exit Sub
    End If
    MissionReq = Application.RoundUp(OffloadReq / OffloadAvailTTTBox, 0)
    With MissionReqBox
        MissionReqBox = MissionReq
    End With
    ' ThisWorkbook.Worksheets("Tanker Employment").Activate **Used for check,
delete later**
End Sub

Private Sub CmdCalcOffloadAvail_Click()

' Calls user form to enter Distance, TAS,Fuel Flow, Total Fuel, Fuel Reserve
' The form then caculates and sets the offload available in the main form and on the data
sheet

    InputFuelAvailData.Show
    With OffloadAvailBox
        OffloadAvailBox = OffloadAvail
```

```
    End With

    With OffloadAvailBox2
        OffloadAvailBox2 = OffloadAvail2
    End With

    With OffloadAvailBox3
        OffloadAvailBox3 = OffloadAvail3
    End With

End Sub


Private Sub CmdCalcOffloadReq_Click()

' Calls user form to enter Distance, TAS,Fuel Flow, Total Fuel, Fuel Reserve
' The form then caculates and sets the offload required in the form and on the data sheet
    InputFuelReqData.Show
    With OffloadReqBox
        OffloadReqBox = OffloadReq
    End With
    With OrigninalOffloadReqBox
        OrigninalOffloadReqBox = OffloadReq
    End With
' Mini proceedure to automatically calculate mission required, ***not working yet***
' Once Offload required is entered, will check to see if Offload Available has been
entered
' If both have been entered, will call the calculate missions required
'    If IsNumeric(OffloadAvail) Then
'        MissionReq = OffloadReq / OffloadAvail
'        With MissionReqBox
'            MissionReqBox = MissionReq
'        End With
'    End If
End Sub

Private Sub CmdCalcRTFT_Click()
' Prompt to see if user would like to enter general estimate for round trip flying time
' Otherwises, sends user to form to enter data for round trip flying time
    Result = 0
    If TrackRTFTEnter = 1 Then
        Result = MsgBox("Would you like to use the Round Trip Flying Time data entered
from " _
            & "calculating the offload fuel available from above?", _
            vbYesNo, "Use Previous Data for RTFT?")
        If Result = 6 Then
```

```
            RTFT = RoundNear(RTFT, 0.1)
            RTFTBox = RTFT
            RTFT2 = RoundNear(RTFT2, 0.1)
            RTFTBox2 = RTFT2
            RTFT3 = RoundNear(RTFT3, 0.1)
            RTFTBox3 = RTFT3
            Exit Sub
        End If
    End If
' Calls user form to enter Distance, TAS, and Time at Refuel Point for each leg of trip
' The form then caculates and sets the Round Trip Flying Time
    InputFirstRTFTData.Show
    RTFT = RoundNear(RTFT, 0.1)
    With RTFTBox
        RTFTBox = RTFT
    End With

    RTFT2 = RoundNear(RTFT2, 0.1)
    With RTFTBox2
        RTFTBox2 = RTFT2
    End With

    RTFT3 = RoundNear(RTFT3, 0.1)
    With RTFTBox3
        RTFTBox3 = RTFT3
    End With

End Sub



Private Sub CmdCalcRTFT3_Click()

End Sub

Private Sub CmdCalcStationInt_Click()
' First checks to ensure user has entered Total Ground Time, Offload required
' And Tanker Fuel Used (in Offload Availalble form) for calculations
    With TotalGroundTimeBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Total Ground Time is require to calculate the Sortie Generation
using base inputs," _
                & " please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
```

```
        TotalGroundTime = TotalGroundTimeBox
        If RTFT < 0 Then
            MsgBox "The Total Ground Time is require to calculate Sortie Generation using
base inputs," _
                & " please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With
    With OffloadReqBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Offload Required by Receivers is require to calculate the Sortie " _
                & "Generation using base inputs, please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        TotalGroundTime = TotalGroundTimeBox
        If RTFT < 0 Then
            MsgBox "The Offload Required by Receivers is require to calculate Sortie
Generation " _
                & "using base inputs, please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With
' tanker2 First checks to ensure user has entered Total Ground Time, Offload required
' And Tanker Fuel Used (in Offload Availalble form) for calculations
    With TotalGroundTimeBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Total Ground Time is require to calculate the Sortie Generation
using base inputs," _
                & " please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        TotalGroundTime2 = TotalGroundTimeBox2
        If RTFT2 < 0 Then
            MsgBox "The Total Ground Time is require to calculate Sortie Generation using
base inputs," _
                & " please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With
    With OffloadReqBox
        If .Value = "" Or Not IsNumeric(.Value) Then
```

```
            MsgBox "The Offload Required by Receivers is require to calculate the Sortie " _
               & "Generation using base inputs, please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        TotalGroundTime2 = TotalGroundTimeBox2
        If RTFT2 < 0 Then
            MsgBox "The Offload Required by Receivers is require to calculate Sortie
Generation " _
               & "using base inputs, please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With

' tanker3 First checks to ensure user has entered Total Ground Time, Offload required
' And Tanker Fuel Used (in Offload Availalble form) for calculations
    With TotalGroundTimeBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Total Ground Time is require to calculate the Sortie Generation
using base inputs," _
               & " please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        TotalGroundTime3 = TotalGroundTimeBox3
        If RTFT3 < 0 Then
            MsgBox "The Total Ground Time is require to calculate Sortie Generation using
base inputs," _
               & " please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With
    With OffloadReqBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Offload Required by Receivers is require to calculate the Sortie " _
               & "Generation using base inputs, please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        TotalGroundTime3 = TotalGroundTimeBox3
        If RTFT3 < 0 Then
            MsgBox "The Offload Required by Receivers is require to calculate Sortie
Generation " _
               & "using base inputs, please enter a nonnegative value."
```

```
            .SetFocus
            Exit Sub
        End If
    End With
' Calls form to enter the base generation capability
    InputBaseIntData.Show

    BaseInt = RoundNear(BaseInt, 0.1)
    With BaseIntBox
        BaseIntBox = BaseInt
    End With
    BaseInt2 = RoundNear(BaseInt2, 0.1)
    With BaseIntBox2
        BaseIntBox2 = BaseInt2
    End With
    BaseInt3 = RoundNear(BaseInt3, 0.1)
    With BaseIntBox3
        BaseIntBox3 = BaseInt3
    End With
End Sub



Private Sub CmdCancel_Click()
    ThisWorkbook.Worksheets("Tanker Employment").Activate
    Unload Me
End Sub

Private Sub CmdCycleTime_Click()
' Uses data from RTFT and Total Ground Time information to calculate the Cycle Time
' First checks to ensure data for RTFT and Total Ground Time has been entered
    With RTFTBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Round Trip Flying Time first."
            .SetFocus
            Exit Sub
        End If
        RTFT = RTFTBox
        If RTFT < 0 Then
            MsgBox "Please enter a nonnegative value for the Round Trip Flying Time."
            .SetFocus
            Exit Sub
        End If
    End With
    With TotalGroundTimeBox
        If .Value = "" Or Not IsNumeric(.Value) Then
```

```
        MsgBox "Please enter a numeric value for the Total Ground Time first."
        .SetFocus
        Exit Sub
    End If
    TotalGroundTime = TotalGroundTimeBox
    If TotalGroundTime < 0 Then
        MsgBox "Please enter a nonnegative value for the Total Ground Time."
        .SetFocus
        Exit Sub
    End If
End With

With RTFTBox2
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "Please enter a numeric value for the Round Trip Flying Time first."
        .SetFocus
        Exit Sub
    End If
    RTFT2 = RTFTBox2
    If RTFT2 < 0 Then
        MsgBox "Please enter a nonnegative value for the Round Trip Flying Time."
        .SetFocus
        Exit Sub
    End If
End With
With TotalGroundTimeBox2
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "Please enter a numeric value for the Total Ground Time first."
        .SetFocus
        Exit Sub
    End If
    TotalGroundTime2 = TotalGroundTimeBox2
    If TotalGroundTime2 < 0 Then
        MsgBox "Please enter a nonnegative value for the Total Ground Time."
        .SetFocus
        Exit Sub
    End If
End With

    With RTFTBox3
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "Please enter a numeric value for the Round Trip Flying Time first."
        .SetFocus
        Exit Sub
    End If
    RTFT3 = RTFTBox3
```

```
        If RTFT3 < 0 Then
            MsgBox "Please enter a nonnegative value for the Round Trip Flying Time."
            .SetFocus
            Exit Sub
        End If
    End With
    With TotalGroundTimeBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Total Ground Time first."
            .SetFocus
            Exit Sub
        End If
        TotalGroundTime3 = TotalGroundTimeBox3
        If TotalGroundTime3 < 0 Then
            MsgBox "Please enter a nonnegative value for the Total Ground Time."
            .SetFocus
            Exit Sub
        End If
    End With
' Calculates the Cycle Time
    CycleTime = RTFT + TotalGroundTime
    CycleTime2 = RTFT2 + TotalGroundTime2
    CycleTime3 = RTFT3 + TotalGroundTime3
' Enters the cycle time into the form
    CycleTime = RoundNear(CycleTime, 0.1)
    With CycleTimeBox
        CycleTimeBox = CycleTime
    End With
    CycleTime2 = RoundNear(CycleTime2, 0.1)
    With CycleTimeBox2
        CycleTimeBox2 = CycleTime2
    End With
    CycleTime3 = RoundNear(CycleTime3, 0.1)
    With CycleTimeBox3
        CycleTimeBox3 = CycleTime3
    End With
End Sub

Private Sub CmdDone_Click()
' Informs user clicking button will erase and shut form, and ensures user wishes to
continue
    Result = MsgBox("This will close the form, erasing all data." & vbCrLf _
        & vbCrLf & "Do you want to continue closing this form?", _
        vbYesNo, "Close Forms")
    If Result = 6 Then
        ThisWorkbook.Worksheets("Tanker Employment").Activate
```

```
        Unload Me
        Unload InputFuelReqData
        Unload InputFuelAvailData
        Unload InputFirstRTFTData
        Unload InputAdditionalRTFTData
        Unload InputFinalRTFTData
        Unload InputGroundTimeData
        Unload InputAircrewIntData
        Unload InputBaseIntData
        TrackRTFTEnter = 0
        ReturnToForm = 0
' Unload InputAircraftIntData   ***  Hiding this command til debugged.
' (Will only unload if data had been entered into form, otherwise hits a bug)
    Else
        Exit Sub
    End If
End Sub


Private Sub CmdInstructions_Click()
' Calls the form to give instructions to the user
    InstructionsPg1.Show
End Sub

Private Sub Cmdprint_Click()
    MainInput.PrintForm
End Sub

Private Sub CmdTotalGroundTime_Click()
    Dim Result As Integer

' Calls form to enter total ground time

    InputGroundTimeData.Show

    With TotalGroundTimeBox
        TotalGroundTimeBox = TotalGroundTime
    End With

    With TotalGroundTimeBox2
        TotalGroundTimeBox2 = TotalGroundTime2
    End With

    With TotalGroundTimeBox3
        TotalGroundTimeBox3 = TotalGroundTime3
    End With
```

```
End Sub


Sub InputTotalGroundTime()

End Sub


Sub CheckInputsMaxFuel()
' Ensures Offload Available and the aircraft, aircrew and stations intervals have been
entered
   With OffloadAvailBox
      If .Value = "" Or Not IsNumeric(.Value) Then
         MsgBox "A numerical number for Offload Available is required to calculate the
Maximum Fuel Available."
          .SetFocus
          BoxCheck = 1
        Exit Sub
      End If
      OffloadAvail = OffloadAvailBox
      If OffloadReq < 0 Then
         MsgBox "That Offload Available should be a nonnegative value in order to
calculate the Maximum Fuel Available."
          .SetFocus
           BoxCheck = 1
         Exit Sub
      End If
   End With
   With AircraftIntBox
      If .Value = "" Or Not IsNumeric(.Value) Then
         MsgBox "A numerical number for Aircraft Sortie Generation rate" & _
            " is required to calculate the Maximum Fuel Available."
         .SetFocus
         BoxCheck = 1
         Exit Sub
      End If
      AircraftInt = AircraftIntBox
      If OffloadReq < 0 Then
         MsgBox "That Aircraft Sortie Generation rate should be a " & _
            "nonnegative value in order to calculate the Maximum Fuel Available."
         .SetFocus
          BoxCheck = 1
        Exit Sub
      End If
```

```
    End With
    With AircrewIntBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "A numerical number for Aircrew Sortie Generation rate" & _
                " is required to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        AircrewInt = AircrewIntBox
        If OffloadReq < 0 Then
            MsgBox "That Aircrew Sortie Generation rate should be a " & _
                "nonnegative value in order to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With BaseIntBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "A numerical number for Base Sortie Generation rate" & _
                " is required to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        BaseInt = BaseIntBox
        If OffloadReq < 0 Then
            MsgBox "The Base Sortie Generation rate should be a " & _
                "nonnegative value in order to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With

    'tanker2
    ' Ensures Offload Available and the aircraft, aircrew and stations intervals have been
entered
    With OffloadAvailBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "A numerical number for Offload Available is required to calculate the
Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
          Exit Sub
```

```
        End If
        OffloadAvail2 = OffloadAvailBox2
        If OffloadReq < 0 Then
           MsgBox "That Offload Available should be a nonnegative value in order to
calculate the Maximum Fuel Available."
          .SetFocus
           BoxCheck = 1
          Exit Sub
        End If
    End With
    With AircraftIntBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
           MsgBox "A numerical number for Aircraft Sortie Generation rate" & _
              " is required to calculate the Maximum Fuel Available."
           .SetFocus
           BoxCheck = 1
           Exit Sub
        End If
        AircraftInt2 = AircraftIntBox2
        If OffloadReq < 0 Then
           MsgBox "That Aircraft Sortie Generation rate should be a " & _
              "nonnegative value in order to calculate the Maximum Fuel Available."
           .SetFocus
           BoxCheck = 1
          Exit Sub
        End If
    End With
    With AircrewIntBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
           MsgBox "A numerical number for Aircrew Sortie Generation rate" & _
              " is required to calculate the Maximum Fuel Available."
           .SetFocus
           BoxCheck = 1
           Exit Sub
        End If
        AircrewInt2 = AircrewIntBox2
        If OffloadReq < 0 Then
           MsgBox "That Aircrew Sortie Generation rate should be a " & _
              "nonnegative value in order to calculate the Maximum Fuel Available."
           .SetFocus
           BoxCheck = 1
           Exit Sub
        End If
    End With
    With BaseIntBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
```

```
            MsgBox "A numerical number for Base Sortie Generation rate" & _
               " is required to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
         End If
         BaseInt2 = BaseIntBox2
         If OffloadReq < 0 Then
            MsgBox "The Base Sortie Generation rate should be a " & _
               "nonnegative value in order to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
         End If
      End With

      'tanker3
      ' Ensures Offload Available and the aircraft, aircrew and stations intervals have been
entered
      With OffloadAvailBox3
         If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "A numerical number for Offload Available is required to calculate the
Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
           Exit Sub
         End If
         OffloadAvail3 = OffloadAvailBox3
         If OffloadReq < 0 Then
            MsgBox "That Offload Available should be a nonnegative value in order to
calculate the Maximum Fuel Available."
            .SetFocus
             BoxCheck = 1
           Exit Sub
         End If
      End With
      With AircraftIntBox3
         If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "A numerical number for Aircraft Sortie Generation rate" & _
               " is required to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
         End If
         AircraftInt3 = AircraftIntBox3
         If OffloadReq < 0 Then
```

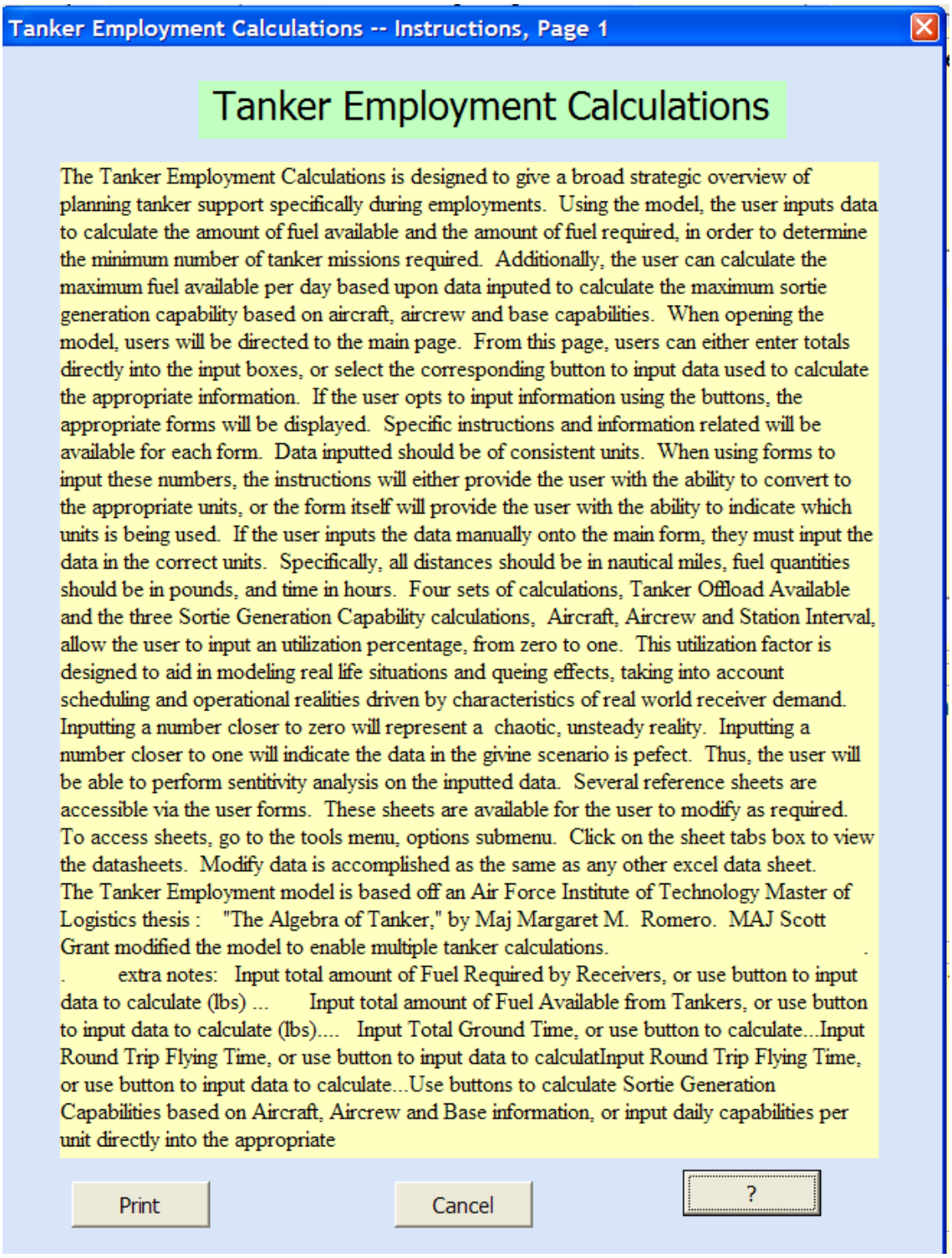
```
            MsgBox "That Aircraft Sortie Generation rate should be a " & _
               "nonnegative value in order to calculate the Maximum Fuel Available."
            .SetFocus
             BoxCheck = 1
           Exit Sub
         End If
      End With
      With AircrewIntBox3
         If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "A numerical number for Aircrew Sortie Generation rate" & _
               " is required to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
         End If
         AircrewInt3 = AircrewIntBox3
         If OffloadReq < 0 Then
            MsgBox "That Aircrew Sortie Generation rate should be a " & _
               "nonnegative value in order to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
         End If
      End With
      With BaseIntBox3
         If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "A numerical number for Base Sortie Generation rate" & _
               " is required to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
         End If
         BaseInt3 = BaseIntBox3
         If OffloadReq < 0 Then
            MsgBox "The Base Sortie Generation rate should be a " & _
               "nonnegative value in order to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
         End If
      End With
End Sub


Sub CheckInputsMissionReq()
' First checks to ensure offload required and offload available data has been entered
```

```
    With OffloadReqBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Offload Required."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        OffloadReq = OffloadReqBox
        If OffloadReq < 0 Then
            MsgBox "Please enter a nonnegative value for the Offload Required."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With OffloadAvailBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Offload Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        OffloadAvail = OffloadAvailBox
        If OffloadAvail < 0 Then
            MsgBox "Please enter a nonnegative value for the Offload Available."
            .SetFocus
             BoxCheck = 1
           Exit Sub
        End If
    End With
'tanker2 First checks to ensure offload required and offload available data has been
entered

    With OffloadAvailBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Offload Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        OffloadAvail2 = OffloadAvailBox2
        If OffloadAvail2 < 0 Then
            MsgBox "Please enter a nonnegative value for the Offload Available."
            .SetFocus
             BoxCheck = 1
           Exit Sub
```

```
    End If
  End With
    With OffloadAvailBox3
    If .Value = "" Or Not IsNumeric(.Value) Then
       MsgBox "Please enter a numeric value for the Offload Available."
       .SetFocus
       BoxCheck = 1
       Exit Sub
    End If
    OffloadAvail3 = OffloadAvailBox3
    If OffloadAvail3 < 0 Then
       MsgBox "Please enter a nonnegative value for the Offload Available."
       .SetFocus
        BoxCheck = 1
      Exit Sub
    End If
  End With


End Sub




Private Sub maxboommissionbox_Change()

End Sub

Private Sub CmdTotalGroundTime2_Click()

End Sub



Private Sub maxboomtankertypebox_Change()

End Sub

Private Sub Label2_Click()

End Sub
```

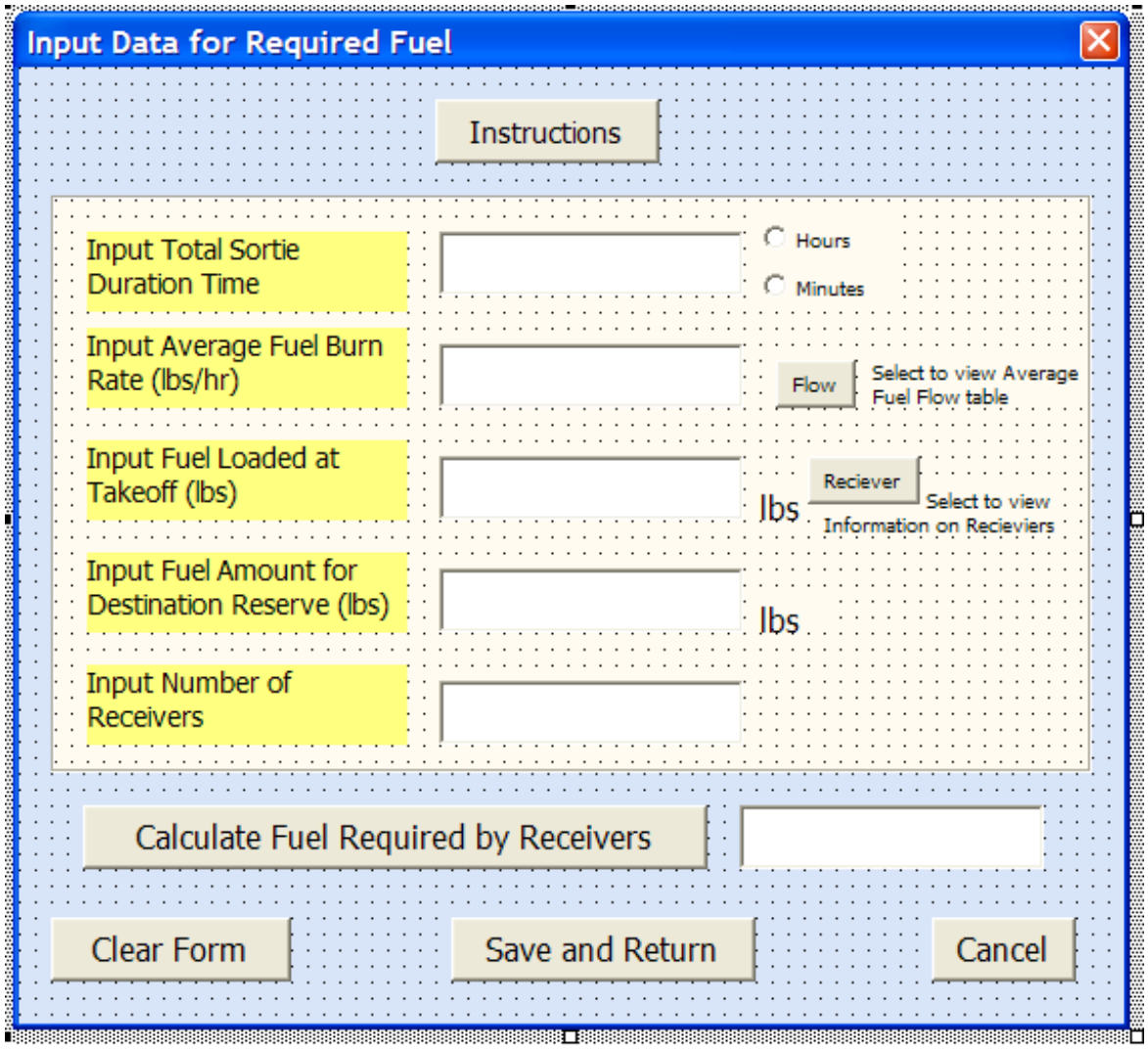
```
Private Sub MinMissionFrame_Click()

End Sub

Private Sub MissionReqBox_Change()

End Sub

Private Sub OffloadAvailBox_Change()

End Sub

Private Sub OffloadAvailBox2_Change()

End Sub

Private Sub OffloadAvailBox3_Change()

End Sub

Private Sub OffloadAvailTT1_Click()

    With OffloadAvailTT1Box
    OffloadAvailTT1Box = OffloadAvailBox * aircraft1count
    End With
    With OffloadAvailTT2Box
    OffloadAvailTT2Box = OffloadAvailBox2 * aircraft2count
    End With
    With OffloadAvailTT3Box
    OffloadAvailTT3Box = OffloadAvailBox3 * aircraft3count
    End With
    With OffloadAvailTTTBox
    OffloadAvailTTTBox = OffloadAvailTT1Box * 1 + 1 * OffloadAvailTT2Box + 1 *
OffloadAvailTT3Box
    End With
    With aircrafttcount
    aircrafttcount = aircraft1count * 1 + aircraft2count * 1 + aircraft3count * 1
    End With


End Sub


Private Sub OffloadAvailTT1Box_Change()
```

```
End Sub

Private Sub RTFTBox_Change()

End Sub

Private Sub RTFTBox2_Change()

End Sub

Private Sub TextBox13_Change()

End Sub

Private Sub TextBox19_Change()

End Sub

Private Sub TextBox24_Change()

End Sub

Private Sub TextBox6_Change()

End Sub

Private Sub TextBox7_Change()

End Sub

Private Sub UserForm_Click()

End Sub
```




```
Option Explicit

Private Sub CancelCmd_Click()
    Unload Me
```

```
End Sub

Private Sub CommandButton1_Click()

End Sub


Private Sub NextCmd_Click()
    Unload Me
    InstructionsPg2.Show
End Sub


Private Sub UserForm_Click()

End Sub
Private Sub Cmdprint_Click()
    InstructionsPg1.PrintForm
End Sub
```



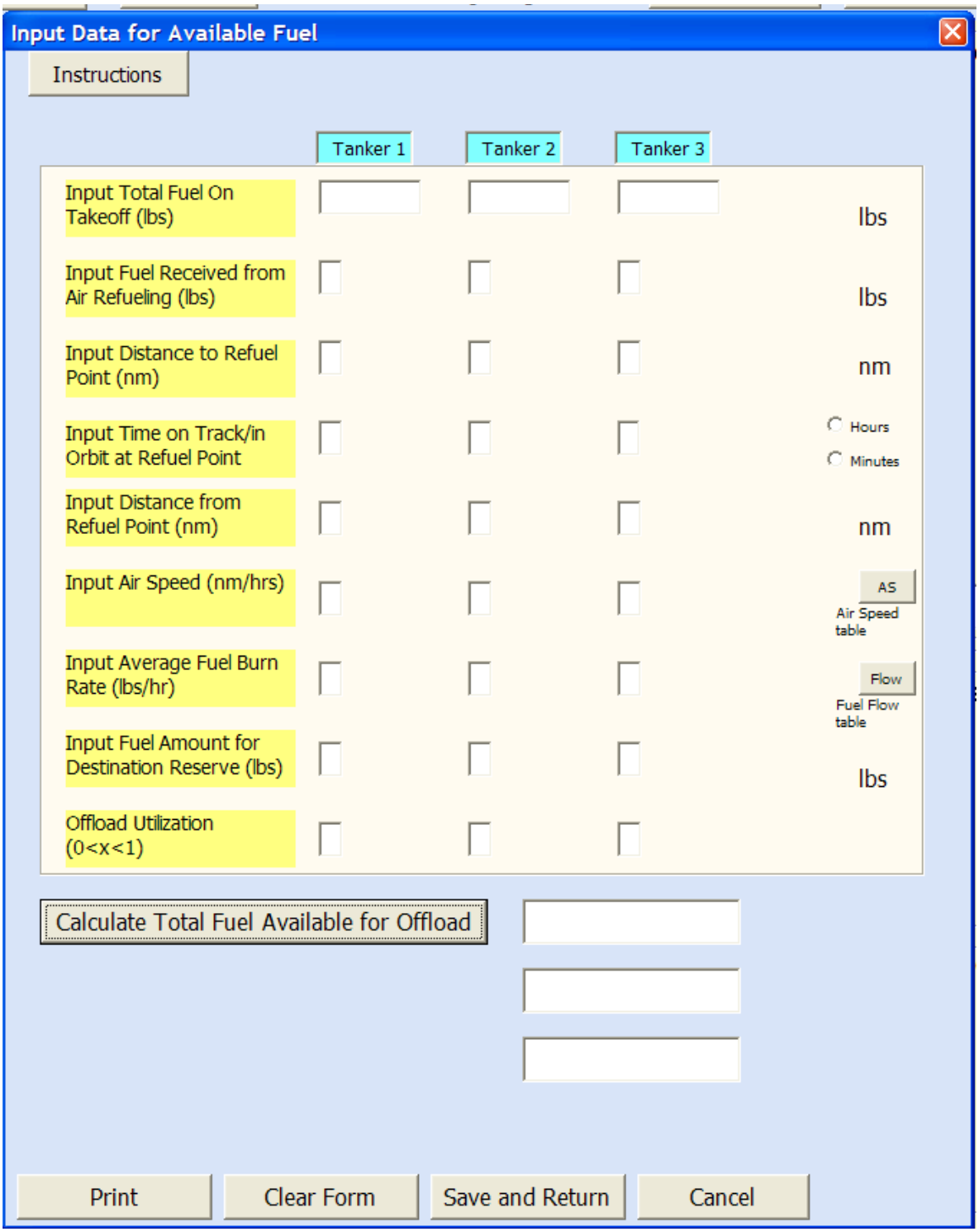

```
Option Explicit
   Dim TempSortieDuration As Variant, TempAvgFuelBurn As Long, _
      TempTotalFuel As Long, TempReserve As Long, TempNumber As Long, _
      TempOffload As Variant, BoxCheck As Integer

Private Sub CmdCancel_Click()
   Unload Me
   End
End Sub

Private Sub CalculateCommandButton_Click()
' Calls subroutine to check if inputs are valid
   BoxCheck = 0
   Call CheckInputs
   If BoxCheck = 1 Then
```

```
        Exit Sub
    End If
'Calculate Offload Required and places the value in the box for users to review
    TempOffload = (TempSortieDuration * TempAvgFuelBurn) - TempTotalFuel +
TempReserve
    OffloadReq = TempOffload * TempNumber
    OffloadReqBox = OffloadReq
End Sub

Private Sub CancelCommandButton_Click()
    Unload Me
End Sub

Private Sub ClearCmd_Click()
'Resets all variables used in form
    TempSortieDuration = 0
    TempAvgFuelBurn = 0
    TempTotalFuel = 0
    TempReserve = 0
    TempNumber = 0
'Clears form by closing then reopening it
    Unload Me
    InputFuelReqData.Show
End Sub

Private Sub cmdViewFuelFlow_Click()
' Initializes ReturntoForm to return to this form
    ReturnToForm = 1
' Activates the worksheet with the chart
    InputFuelReqData.Hide
    MainInput.Hide
    ThisWorkbook.Worksheets("Fuel Flow").Activate
    With AvgFuelBurnBox
        .SetFocus
    End With
End Sub


Private Sub cmdViewReceiverInfo_Click()
' Initializes ReturntoForm to return to this form
    ReturnToForm = 1
' Activates the worksheet with the appropriate chart
    InputFuelReqData.Hide
    MainInput.Hide
    ThisWorkbook.Worksheets("Receiver").Activate
    With TotalFuelBox
```

```
        .SetFocus
    End With
End Sub

Private Sub InstructionsCmd_Click()
' Opens form for instructions for Inputting data for Required Fuel
    InstructionsFuelReq.Show
End Sub

Sub CheckInputs()
' Checks to ensure users inputs are numeric, and appropriate (converting minutes to hour
if needed)
' Assigns users inputs to temporary variables to calculate receivers' required fuel
    With SortieTimeBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the duration time of the sortie."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempSortieDuration = SortieTimeBox
        If TempSortieDuration < 0 Then
            MsgBox "Please enter a nonnegative value for the duration time of the sortie."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    If HoursOption = False And MinutesOption = False Then
        MsgBox "Please indicate if sortie duration is in hours or minutes."
        Exit Sub
    ElseIf MinutesOption = True Then
        TempSortieDuration = TempSortieDuration \ 60
    End If
    With AvgFuelBurnBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the FuelFlow."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempAvgFuelBurn = AvgFuelBurnBox
        If TempAvgFuelBurn < 0 Then
            MsgBox "Please enter a nonnegative value for the Average Fuel Burn Rate."
            .SetFocus
            BoxCheck = 1
```

```
            Exit Sub
        End If
    End With
    With TotalFuelBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Total Fuel Loaded."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempTotalFuel = TotalFuelBox
        If TempTotalFuel < 0 Then
            MsgBox "Please enter a nonnegative value for the Total Fuel Loaded."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With DestinationReserveBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Destination Reserve fuel desired."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempReserve = DestinationReserveBox
        If TempReserve < 0 Then
            MsgBox "Please enter a nonnegative value for the Destination Reserve fuel
desired."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With NumReceiverBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Number of Receiver Aircraft."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempNumber = NumReceiverBox
        If TempReserve < 0 Then
            MsgBox "Please enter a nonnegative value for the Number of Receiver Aircraft."
            .SetFocus
            BoxCheck = 1
```

```
            Exit Sub
        End If
    End With
End Sub

Private Sub ReturnCmd_Click()
'Returns the user to the main form, saving the data by hiding the form
    InputFuelReqData.Hide
End Sub

Private Sub UserForm_Click()

End Sub
```




```
Option Explicit
    Dim ws As Worksheet, BoxCheck As Integer, TempOffloadReq As String, Result As
Integer

Private Sub BoomMissionReqbox_Change()
```

```
End Sub

Private Sub Aircraftct_Change()

End Sub

Private Sub aircraftusedBox3b_Change()

End Sub

Private Sub calcmaxtankers_Click()

    Dim maxbooms As Integer, missionsreq1 As Currency, aircraftused1 As Currency, _
    missionsreq2 As Currency, aircraftused2 As Currency, _
    missionsreq3 As Currency, aircraftused3 As Currency

'resets values
    aircraftusedBox1f = 0
    aircraftusedBox2f = 0
    aircraftusedBox3f = 0
    missionsreq1 = 0
    missionsreq2 = 0
    missionsreq2 = 0

    missionsreq1 = OffloadReqBox / OffloadAvailBox
    missionsreq2 = OffloadReqBox / OffloadAvailBox2
    missionsreq3 = OffloadReqBox / OffloadAvailBox3



'Calculates Minimum Tankers needed  to meet fuel offload required


    If missionsreq1 > missionsreq2 Then ' 1st phase
       If missionsreq1 > missionsreq3 Then
       ' aircraftcount calculaton
          If missionsreq1 < aircraft1count Then
          aircraftusedBox1f = missionsreq1

          Else: aircraftusedBox1f = aircraft1count
          End If


          OffloadReqBox = OffloadReqBox - (aircraftusedBox1f * OffloadAvailBox)

          missionsreq2 = OffloadReqBox / OffloadAvailBox2
```

```
        missionsreq3 = OffloadReqBox / OffloadAvailBox3

           If missionsreq2 > missionsreq3 Then
              If missionsreq2 < aircraft2count Then
              aircraftusedBox2f = missionsreq2

              Else: aircraftusedBox2f = aircraft2count
              End If

              OffloadReqBox = OffloadReqBox - (aircraftusedBox2f *
OffloadAvailBox2)

              missionsreq3 = OffloadReqBox / OffloadAvailBox3

                 If missionsreq3 < aircraft3count Then
                    aircraftusedBox3f = missionsreq3
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox3f *
OffloadAvailBox3)

                 Else: aircraftusedBox3f = aircraft3count
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox3f *
OffloadAvailBox3)
                    MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                 End If

           ElseIf missionsreq3 > missionsreq2 Then

              If missionsreq3 < aircraft3count Then
              aircraftusedBox3f = missionsreq3

              Else: aircraftusedBox3f = aircraft3count
              End If

              OffloadReqBox = OffloadReqBox - (aircraftusedBox3f *
OffloadAvailBox3)

              missionsreq2 = OffloadReqBox / OffloadAvailBox2

                 If missionsreq2 < aircraft2count Then
                    aircraftusedBox2f = missionsreq2
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox2f *
OffloadAvailBox2)

                 Else: aircraftusedBox2f = aircraft2count
```

```
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox2f *
OffloadAvailBox2)
                    MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                End If
            End If  'check this END IF

        ElseIf missionsreq3 > missionsreq1 Then

            ' aircraftcount calculaton
            If missionsreq3 < aircraft3count Then
            aircraftusedBox3f = missionsreq3

            Else: aircraftusedBox3f = aircraft3count
            End If


            OffloadReqBox = OffloadReqBox - (aircraftusedBox3f * OffloadAvailBox3)

            missionsreq1 = OffloadReqBox / OffloadAvailBox
            missionsreq2 = OffloadReqBox / OffloadAvailBox2

               If missionsreq1 > missionsreq2 Then
                  If missionsreq1 < aircraft1count Then
                  aircraftusedBox1f = missionsreq1

                  Else: aircraftusedBox1f = aircraft1count
                  End If

                  OffloadReqBox = OffloadReqBox - (aircraftusedBox1f * OffloadAvailBox)

                  missionsreq2 = OffloadReqBox / OffloadAvailBox2

                     If missionsreq2 < aircraft2count Then
                        aircraftusedBox2f = missionsreq2
                        OffloadReqBox = OffloadReqBox - (aircraftusedBox2f *
OffloadAvailBox2)

                     Else: aircraftusedBox2f = aircraft2count
                        OffloadReqBox = OffloadReqBox - (aircraftusedBox2f *
OffloadAvailBox2)
                        MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                     End If

               End If
```

```
        End If

    ElseIf missionsreq2 > missionsreq1 Then '2nd phase
        If missionsreq2 > missionsreq3 Then
      ' aircraftcount calculaton
        If missionsreq2 < aircraft2count Then
        aircraftusedBox2f = missionsreq2

        Else: aircraftusedBox2f = aircraft2count
        End If


        OffloadReqBox = OffloadReqBox - (aircraftusedBox2f * OffloadAvailBox2)

        missionsreq1 = OffloadReqBox / OffloadAvailBox
        missionsreq3 = OffloadReqBox / OffloadAvailBox3

           If missionsreq1 > missionsreq3 Then
              If missionsreq1 < aircraft1count Then
              aircraftusedBox1f = missionsreq1

              Else: aircraftusedBox1f = aircraft1count
              End If

              OffloadReqBox = OffloadReqBox - (aircraftusedBox1f * OffloadAvailBox)

              missionsreq3 = OffloadReqBox / OffloadAvailBox3

                 If missionsreq3 < aircraft3count Then
                    aircraftusedBox3f = missionsreq3
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox3f *
OffloadAvailBox3)

                 Else: aircraftusedBox3f = aircraft3count
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox3f *
OffloadAvailBox3)
                    MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                 End If

           ElseIf missionsreq3 > missionsreq1 Then

              If missionsreq3 < aircraft3count Then
              aircraftusedBox3f = missionsreq3
```

```
            Else: aircraftusedBox3f = aircraft3count
            End If

            OffloadReqBox = OffloadReqBox - (aircraftusedBox3f *
OffloadAvailBox3)

            missionsreq1 = OffloadReqBox / OffloadAvailBox

               If missionsreq1 < aircraft1count Then
                  aircraftusedBox1f = missionsreq1
                  OffloadReqBox = OffloadReqBox - (aircraftusedBox1f *
OffloadAvailBox)

               Else: aircraftusedBox1f = aircraft1count
                  OffloadReqBox = OffloadReqBox - (aircraftusedBox1f *
OffloadAvailBox)
                  MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
               End If
            End If  'check this END IF

      ElseIf missionsreq3 > missionsreq2 Then

         ' aircraftcount calculaton
         If missionsreq3 < aircraft3count Then
         aircraftusedBox3f = missionsreq3

         Else: aircraftusedBox3f = aircraft3count
         End If



         OffloadReqBox = OffloadReqBox - (aircraftusedBox3f * OffloadAvailBox3)

         missionsreq1 = OffloadReqBox / OffloadAvailBox
         missionsreq2 = OffloadReqBox / OffloadAvailBox2

            If missionsreq2 > missionsreq1 Then
               If missionsreq2 < aircraft2count Then
               aircraftusedBox2f = missionsreq2

               Else: aircraftusedBox2f = aircraft2count
               End If

               OffloadReqBox = OffloadReqBox - (aircraftusedBox2f *
OffloadAvailBox2)
```

```
            missionsreq1 = OffloadReqBox / OffloadAvailBox

               If missionsreq1 < aircraft1count Then
                  aircraftusedBox1f = missionsreq1
                  OffloadReqBox = OffloadReqBox - (aircraftusedBox1f *
OffloadAvailBox)

               Else: aircraftusedBox1f = aircraft1count
                  OffloadReqBox = OffloadReqBox - (aircraftusedBox1f *
OffloadAvailBox)
                  MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
               End If

   End If
   End If
   End If

End Sub

Private Sub calcmintankers_Click()

   Dim maxbooms As Integer, missionsreq1 As Currency, aircraftused1 As Currency, _
   missionsreq2 As Currency, aircraftused2 As Currency, _
   missionsreq3 As Currency, aircraftused3 As Currency

'resets values
   aircraftusedBox1b = 0
   aircraftusedBox2b = 0
   aircraftusedBox3b = 0
   missionsreq1 = 0
   missionsreq2 = 0
   missionsreq2 = 0

   missionsreq1 = OffloadReqBox / OffloadAvailBox
   missionsreq2 = OffloadReqBox / OffloadAvailBox2
   missionsreq3 = OffloadReqBox / OffloadAvailBox3



'Calculates Minimum Tankers needed  to meet fuel offload required


   If missionsreq1 < missionsreq2 Then ' 1st phase
      If missionsreq1 < missionsreq3 Then
```

```
' aircraftcount calculaton
   If missionsreq1 < aircraft1count Then
   aircraftusedBox1b = missionsreq1

   Else: aircraftusedBox1b = aircraft1count
   End If


   OffloadReqBox = OffloadReqBox - (aircraftusedBox1b * OffloadAvailBox)

   missionsreq2 = OffloadReqBox / OffloadAvailBox2
   missionsreq3 = OffloadReqBox / OffloadAvailBox3

      If missionsreq2 < missionsreq3 Then
         If missionsreq2 < aircraft2count Then
         aircraftusedBox2b = missionsreq2

         Else: aircraftusedBox2b = aircraft2count
         End If

         OffloadReqBox = OffloadReqBox - (aircraftusedBox2b *
OffloadAvailBox2)

         missionsreq3 = OffloadReqBox / OffloadAvailBox3

            If missionsreq3 < aircraft3count Then
               aircraftusedBox3b = missionsreq3
               OffloadReqBox = OffloadReqBox - (aircraftusedBox3b *
OffloadAvailBox3)

            Else: aircraftusedBox3b = aircraft3count
               OffloadReqBox = OffloadReqBox - (aircraftusedBox3b *
OffloadAvailBox3)
               MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
            End If

      ElseIf missionsreq3 < missionsreq2 Then

         If missionsreq3 < aircraft3count Then
         aircraftusedBox3b = missionsreq3

         Else: aircraftusedBox3b = aircraft3count
         End If
```

```
            OffloadReqBox = OffloadReqBox - (aircraftusedBox3b *
OffloadAvailBox3)

            missionsreq2 = OffloadReqBox / OffloadAvailBox2

               If missionsreq2 < aircraft2count Then
                  aircraftusedBox2b = missionsreq2
                  OffloadReqBox = OffloadReqBox - (aircraftusedBox2b *
OffloadAvailBox2)

               Else: aircraftusedBox2b = aircraft2count
                  OffloadReqBox = OffloadReqBox - (aircraftusedBox2b *
OffloadAvailBox2)
                  MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
               End If
         End If  'check this END IF

   ElseIf missionsreq3 < missionsreq1 Then

      ' aircraftcount calculaton
      If missionsreq3 < aircraft3count Then
      aircraftusedBox3b = missionsreq3

      Else: aircraftusedBox3b = aircraft3count
      End If


      OffloadReqBox = OffloadReqBox - (aircraftusedBox3b * OffloadAvailBox3)

      missionsreq1 = OffloadReqBox / OffloadAvailBox
      missionsreq2 = OffloadReqBox / OffloadAvailBox2

         If missionsreq1 < missionsreq2 Then
            If missionsreq1 < aircraft1count Then
            aircraftusedBox1b = missionsreq1

            Else: aircraftusedBox1b = aircraft1count
            End If

            OffloadReqBox = OffloadReqBox - (aircraftusedBox1b * OffloadAvailBox)

            missionsreq2 = OffloadReqBox / OffloadAvailBox2

               If missionsreq2 < aircraft2count Then
                  aircraftusedBox2b = missionsreq2
```

```
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox2b *
OffloadAvailBox2)

                Else: aircraftusedBox2b = aircraft2count
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox2b *
OffloadAvailBox2)
                    MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                End If

            End If

        End If

    ElseIf missionsreq2 < missionsreq1 Then '2nd phase
        If missionsreq2 < missionsreq3 Then
      ' aircraftcount calculaton
        If missionsreq2 < aircraft2count Then
        aircraftusedBox2b = missionsreq2

        Else: aircraftusedBox2b = aircraft2count
        End If


        OffloadReqBox = OffloadReqBox - (aircraftusedBox2b * OffloadAvailBox2)

        missionsreq1 = OffloadReqBox / OffloadAvailBox
        missionsreq3 = OffloadReqBox / OffloadAvailBox3

            If missionsreq1 < missionsreq3 Then
                If missionsreq1 < aircraft1count Then
                aircraftusedBox1b = missionsreq1

                Else: aircraftusedBox1b = aircraft1count
                End If

                OffloadReqBox = OffloadReqBox - (aircraftusedBox1b * OffloadAvailBox)

                missionsreq3 = OffloadReqBox / OffloadAvailBox3

                    If missionsreq3 < aircraft3count Then
                        aircraftusedBox3b = missionsreq3
                        OffloadReqBox = OffloadReqBox - (aircraftusedBox3b *
OffloadAvailBox3)

                    Else: aircraftusedBox3b = aircraft3count
```

```
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox3b *
OffloadAvailBox3)
                    MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                End If

            ElseIf missionsreq3 < missionsreq1 Then

                If missionsreq3 < aircraft3count Then
                aircraftusedBox3b = missionsreq3

                Else: aircraftusedBox3b = aircraft3count
                End If

                OffloadReqBox = OffloadReqBox - (aircraftusedBox3b *
OffloadAvailBox3)

                missionsreq1 = OffloadReqBox / OffloadAvailBox

                    If missionsreq1 < aircraft1count Then
                        aircraftusedBox1b = missionsreq1
                        OffloadReqBox = OffloadReqBox - (aircraftusedBox1b *
OffloadAvailBox)

                    Else: aircraftusedBox1b = aircraft1count
                        OffloadReqBox = OffloadReqBox - (aircraftusedBox1b *
OffloadAvailBox)
                    MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                    End If
                End If  'check this END IF

        ElseIf missionsreq3 < missionsreq2 Then

            ' aircraftcount calculaton
            If missionsreq3 < aircraft3count Then
            aircraftusedBox3b = missionsreq3

            Else: aircraftusedBox3b = aircraft3count
            End If



            OffloadReqBox = OffloadReqBox - (aircraftusedBox3b * OffloadAvailBox3)

            missionsreq1 = OffloadReqBox / OffloadAvailBox
```

```
        missionsreq2 = OffloadReqBox / OffloadAvailBox2

           If missionsreq2 < missionsreq1 Then
              If missionsreq2 < aircraft2count Then
              aircraftusedBox2b = missionsreq2

              Else: aircraftusedBox2b = aircraft2count
              End If

              OffloadReqBox = OffloadReqBox - (aircraftusedBox2b *
OffloadAvailBox2)

              missionsreq1 = OffloadReqBox / OffloadAvailBox

                 If missionsreq1 < aircraft1count Then
                    aircraftusedBox1b = missionsreq1
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox1b *
OffloadAvailBox)

                 Else: aircraftusedBox1b = aircraft1count
                    OffloadReqBox = OffloadReqBox - (aircraftusedBox1b *
OffloadAvailBox)
                    MsgBox "Please adjust fuel available or fuel required to meet mission
parameters."
                 End If

   End If
   End If
   End If

End Sub




Private Sub CmdCalcAircraftInt_Click()
' First checks to ensure user has entered Cycle Time, required for calculations
   With CycleTimeBox
      If .Value = "" Or Not IsNumeric(.Value) Then
         MsgBox "The Cycle Time is required to calculate Sortie Generation Capablity for
aircraft, " _
            & "please enter a nonnumeric value."
         .SetFocus
         Exit Sub
```

```
        End If
        CycleTime = CycleTimeBox
        If CycleTime < 0 Then
            MsgBox "The Cycle Time is required to calculate Sortie Generation Capablity for
aircraft, " _
                & "please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With

    With CycleTimeBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Cycle Time is required to calculate Sortie Generation Capablity for
aircraft, " _
                & "please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        CycleTime2 = CycleTimeBox2
        If CycleTime2 < 0 Then
            MsgBox "The Cycle Time is required to calculate Sortie Generation Capablity for
aircraft, " _
                & "please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With

    With CycleTimeBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Cycle Time is required to calculate Sortie Generation Capablity for
aircraft, " _
                & "please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        CycleTime3 = CycleTimeBox3
        If CycleTime3 < 0 Then
            MsgBox "The Cycle Time is required to calculate Sortie Generation Capablity for
aircraft, " _
                & "please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With
```

```
' Calls user form to aircraft assigned, NMC and calculate the aircraft generation capability
   InputAircraftIntData.Show
   AircraftInt = RoundNear(AircraftInt, 0.1)
   With AircraftIntBox
      AircraftIntBox = AircraftInt
   End With
   AircraftInt2 = RoundNear(AircraftInt2, 0.1)
   With AircraftIntBox2
      AircraftIntBox2 = AircraftInt2
   End With
   AircraftInt3 = RoundNear(AircraftInt3, 0.1)
   With AircraftIntBox3
      AircraftIntBox3 = AircraftInt
   End With

End Sub


Private Sub CmdCalcAircrewInt_Click()
' First checks to ensure user has entered Round Trip Flying Time, required for
calculations
   With RTFTBox
      If .Value = "" Or Not IsNumeric(.Value) Then
         MsgBox "The Round Trip Flying Time is required for Sortie Generation
Capablity for aircrew, " _
            & "please enter a nonnumeric value."
         .SetFocus
         Exit Sub
      End If
      RTFT = RTFTBox
      If RTFT < 0 Then
         MsgBox "The Round Trip Flying Time is required for Sortie Generation
Capablity for aircrew, " _
            & "please enter a nonnegative value."
         .SetFocus
         Exit Sub
      End If
   End With

   With RTFTBox2
      If .Value = "" Or Not IsNumeric(.Value) Then
         MsgBox "The Round Trip Flying Time is required for Sortie Generation
Capablity for aircrew, " _
            & "please enter a nonnumeric value."
         .SetFocus
         Exit Sub
```

```
        End If
        RTFT2 = RTFTBox2
        If RTFT2 < 0 Then
            MsgBox "The Round Trip Flying Time is required for Sortie Generation
Capablity for aircrew, " _
                & "please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With

    With RTFTBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Round Trip Flying Time is required for Sortie Generation
Capablity for aircrew, " _
                & "please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        RTFT3 = RTFTBox3
        If RTFT < 0 Then
            MsgBox "The Round Trip Flying Time is required for Sortie Generation
Capablity for aircrew, " _
                & "please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With

' Calls user form to aircrew assigned, those not available, and the time frame, and
' calculates the aircraft generation capability
    InputAircrewIntData.Show

    AircrewInt = RoundNear(AircrewInt, 0.1)
    With AircrewIntBox
        AircrewIntBox = AircrewInt
    End With

    AircrewInt2 = RoundNear(AircrewInt2, 0.1)
    With AircrewIntBox2
        AircrewIntBox2 = AircrewInt2
    End With

    AircrewInt3 = RoundNear(AircrewInt3, 0.1)
    With AircrewIntBox3
        AircrewIntBox3 = AircrewInt3
```

```
    End With
End Sub


Private Sub CmdCalcAircrewInt2_Click()

End Sub

Private Sub CmdCalcMaxFuelAvail_Click()
    Dim FlowInt As Integer, FlowInt2 As Integer, FlowInt3 As Integer
' Calls Subroutine to check inputs and  ensure users inputs assigned to a variable
    BoxCheck = 0
    Call CheckInputsMaxFuel
    If BoxCheck = 1 Then
        Exit Sub
    End If
'Calculates Flow Interval by finding the minimum of that aircraft, aircrew and station
intervals
    If AircraftInt < AircrewInt Then
        If AircraftInt < BaseInt Then
            FlowInt = AircraftInt
        Else
            FlowInt = BaseInt
        End If
    ElseIf AircrewInt < AircraftInt Then
        If AircrewInt < BaseInt Then
            FlowInt = AircrewInt
        Else
            FlowInt = BaseInt
         End If
    ElseIf BaseInt < AircraftInt Then
        If BaseInt < AircrewInt Then
            FlowInt = BaseInt
        Else
            FlowInt = AircrewInt
        End If
    End If
'tanker2 Calculates Flow Interval by finding the minimum of that aircraft, aircrew and
station intervals
    If AircraftInt2 < AircrewInt2 Then
        If AircraftInt2 < BaseInt2 Then
            FlowInt2 = AircraftInt2
        Else
            FlowInt2 = BaseInt2
        End If
    ElseIf AircrewInt2 < AircraftInt2 Then
```

```
        If AircrewInt2 < BaseInt2 Then
           FlowInt2 = AircrewInt2
        Else
           FlowInt2 = BaseInt2
         End If
    ElseIf BaseInt2 < AircraftInt2 Then
        If BaseInt2 < AircrewInt2 Then
           FlowInt2 = BaseInt2
        Else
           FlowInt2 = AircrewInt2
        End If
    End If
 'tanker3 Calculates Flow Interval by finding the minimum of that aircraft, aircrew and
station intervals
    If AircraftInt3 < AircrewInt3 Then
        If AircraftInt3 < BaseInt3 Then
           FlowInt3 = AircraftInt3
        Else
           FlowInt3 = BaseInt3
        End If
    ElseIf AircrewInt3 < AircraftInt3 Then
        If AircrewInt3 < BaseInt3 Then
           FlowInt3 = AircrewInt3
        Else
           FlowInt3 = BaseInt3
         End If
    ElseIf BaseInt3 < AircraftInt3 Then
        If BaseInt3 < AircrewInt3 Then
           FlowInt3 = BaseInt3
        Else
           FlowInt3 = AircrewInt3
        End If
    End If
' Calculates the Maximum Fuel Available and enters into form and Data Worksheet
    MaxFuelAvail = FlowInt * OffloadAvail
    With MaxFuelAvailBox
        MaxFuelAvailBox = MaxFuelAvail
    End With

' tanker2 Calculates the Maximum Fuel Available and enters into form and Data
Worksheet
    MaxFuelAvail2 = FlowInt2 * OffloadAvail2
    With MaxFuelAvailBox2
        MaxFuelAvailBox2 = MaxFuelAvail2
    End With
```

```
' tanker3 Calculates the Maximum Fuel Available and enters into form and Data
Worksheet
    MaxFuelAvail3 = FlowInt3 * OffloadAvail3
    With MaxFuelAvailBox3
        MaxFuelAvailBox3 = MaxFuelAvail3
    End With
End Sub

Private Sub CmdCalcMissionReq_Click()
' Uses data from Offload Required and Offload Available to calculate the missions
required
' Calls Subroutine to check inputs and  ensure users inputs assigned to a variable
    BoxCheck = 0
    Call CheckInputsMissionReq
    If BoxCheck = 1 Then
        Exit Sub
    End If
' Calculates Mission Required and enters the required, available and missions into the
form and onto the data sheet
    If OffloadAvail = 0 Then
        MsgBox "Can not calculate the number of missions required if the offload available
is 0.  Please enter a number."
        Exit Sub
    End If
    MissionReq = Application.RoundUp(OffloadReq / OffloadAvailTTTBox, 0)
    With MissionReqBox
        MissionReqBox = MissionReq
    End With
    ' ThisWorkbook.Worksheets("Tanker Employment").Activate **Used for check,
delete later**
End Sub

Private Sub CmdCalcOffloadAvail_Click()

' Calls user form to enter Distance, TAS,Fuel Flow, Total Fuel, Fuel Reserve
' The form then caculates and sets the offload available in the main form and on the data
sheet

    InputFuelAvailData.Show
    With OffloadAvailBox
        OffloadAvailBox = OffloadAvail
    End With

    With OffloadAvailBox2
        OffloadAvailBox2 = OffloadAvail2
    End With
```

```
    With OffloadAvailBox3
        OffloadAvailBox3 = OffloadAvail3
    End With

End Sub


Private Sub CmdCalcOffloadReq_Click()

' Calls user form to enter Distance, TAS,Fuel Flow, Total Fuel, Fuel Reserve
' The form then caculates and sets the offload required in the form and on the data sheet
    InputFuelReqData.Show
    With OffloadReqBox
        OffloadReqBox = OffloadReq
    End With
    With OrigninalOffloadReqBox
        OrigninalOffloadReqBox = OffloadReq
    End With
' Mini proceedure to automatically calculate mission required, ***not working yet***
' Once Offload required is entered, will check to see if Offload Available has been
entered
' If both have been entered, will call the calculate missions required
'    If IsNumeric(OffloadAvail) Then
'        MissionReq = OffloadReq / OffloadAvail
'        With MissionReqBox
'            MissionReqBox = MissionReq
'        End With
'    End If
End Sub

Private Sub CmdCalcRTFT_Click()
' Prompt to see if user would like to enter general estimate for round trip flying time
' Otherwises, sends user to form to enter data for round trip flying time
    Result = 0
    If TrackRTFTEnter = 1 Then
        Result = MsgBox("Would you like to use the Round Trip Flying Time data entered
from " _
            & "calculating the offload fuel available from above?", _
            vbYesNo, "Use Previous Data for RTFT?")
        If Result = 6 Then
            RTFT = RoundNear(RTFT, 0.1)
            RTFTBox = RTFT
            RTFT2 = RoundNear(RTFT2, 0.1)
            RTFTBox2 = RTFT2
            RTFT3 = RoundNear(RTFT3, 0.1)
```

```
            RTFTBox3 = RTFT3
            Exit Sub
        End If
    End If
' Calls user form to enter Distance, TAS, and Time at Refuel Point for each leg of trip
' The form then caculates and sets the Round Trip Flying Time
    InputFirstRTFTData.Show
    RTFT = RoundNear(RTFT, 0.1)
    With RTFTBox
        RTFTBox = RTFT
    End With

    RTFT2 = RoundNear(RTFT2, 0.1)
    With RTFTBox2
        RTFTBox2 = RTFT2
    End With

    RTFT3 = RoundNear(RTFT3, 0.1)
    With RTFTBox3
        RTFTBox3 = RTFT3
    End With

End Sub



Private Sub CmdCalcRTFT3_Click()

End Sub

Private Sub CmdCalcStationInt_Click()
' First checks to ensure user has entered Total Ground Time, Offload required
' And Tanker Fuel Used (in Offload Availalble form) for calculations
    With TotalGroundTimeBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Total Ground Time is require to calculate the Sortie Generation
using base inputs," _
                & " please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        TotalGroundTime = TotalGroundTimeBox
        If RTFT < 0 Then
            MsgBox "The Total Ground Time is require to calculate Sortie Generation using
base inputs," _
                & " please enter a nonnegative value."
```

```
            .SetFocus
            Exit Sub
        End If
    End With
    With OffloadReqBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Offload Required by Receivers is require to calculate the Sortie " _
                & "Generation using base inputs, please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        TotalGroundTime = TotalGroundTimeBox
        If RTFT < 0 Then
            MsgBox "The Offload Required by Receivers is require to calculate Sortie
Generation " _
                & "using base inputs, please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With
' tanker2 First checks to ensure user has entered Total Ground Time, Offload required
' And Tanker Fuel Used (in Offload Availalble form) for calculations
    With TotalGroundTimeBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Total Ground Time is require to calculate the Sortie Generation
using base inputs," _
                & " please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        TotalGroundTime2 = TotalGroundTimeBox2
        If RTFT2 < 0 Then
            MsgBox "The Total Ground Time is require to calculate Sortie Generation using
base inputs," _
                & " please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With
    With OffloadReqBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Offload Required by Receivers is require to calculate the Sortie " _
                & "Generation using base inputs, please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
```

```
        TotalGroundTime2 = TotalGroundTimeBox2
        If RTFT2 < 0 Then
            MsgBox "The Offload Required by Receivers is require to calculate Sortie
Generation " _
                & "using base inputs, please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With

' tanker3 First checks to ensure user has entered Total Ground Time, Offload required
' And Tanker Fuel Used (in Offload Availalble form) for calculations
    With TotalGroundTimeBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Total Ground Time is require to calculate the Sortie Generation
using base inputs," _
                & " please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        TotalGroundTime3 = TotalGroundTimeBox3
        If RTFT3 < 0 Then
            MsgBox "The Total Ground Time is require to calculate Sortie Generation using
base inputs," _
                & " please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With
    With OffloadReqBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "The Offload Required by Receivers is require to calculate the Sortie " _
                & "Generation using base inputs, please enter a nonnumeric value."
            .SetFocus
            Exit Sub
        End If
        TotalGroundTime3 = TotalGroundTimeBox3
        If RTFT3 < 0 Then
            MsgBox "The Offload Required by Receivers is require to calculate Sortie
Generation " _
                & "using base inputs, please enter a nonnegative value."
            .SetFocus
            Exit Sub
        End If
    End With
' Calls form to enter the base generation capability
```

```
    InputBaseIntData.Show

    BaseInt = RoundNear(BaseInt, 0.1)
    With BaseIntBox
        BaseIntBox = BaseInt
    End With
    BaseInt2 = RoundNear(BaseInt2, 0.1)
    With BaseIntBox2
        BaseIntBox2 = BaseInt2
    End With
    BaseInt3 = RoundNear(BaseInt3, 0.1)
    With BaseIntBox3
        BaseIntBox3 = BaseInt3
    End With
End Sub



Private Sub CmdCancel_Click()
    ThisWorkbook.Worksheets("Tanker Employment").Activate
    Unload Me
End Sub

Private Sub CmdCycleTime_Click()
' Uses data from RTFT and Total Ground Time information to calculate the Cycle Time
' First checks to ensure data for RTFT and Total Ground Time has been entered
    With RTFTBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Round Trip Flying Time first."
            .SetFocus
            Exit Sub
        End If
        RTFT = RTFTBox
        If RTFT < 0 Then
            MsgBox "Please enter a nonnegative value for the Round Trip Flying Time."
            .SetFocus
            Exit Sub
        End If
    End With
    With TotalGroundTimeBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Total Ground Time first."
            .SetFocus
            Exit Sub
        End If
        TotalGroundTime = TotalGroundTimeBox
```

```
    If TotalGroundTime < 0 Then
        MsgBox "Please enter a nonnegative value for the Total Ground Time."
        .SetFocus
        Exit Sub
    End If
End With

With RTFTBox2
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "Please enter a numeric value for the Round Trip Flying Time first."
        .SetFocus
        Exit Sub
    End If
    RTFT2 = RTFTBox2
    If RTFT2 < 0 Then
        MsgBox "Please enter a nonnegative value for the Round Trip Flying Time."
        .SetFocus
        Exit Sub
    End If
End With
With TotalGroundTimeBox2
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "Please enter a numeric value for the Total Ground Time first."
        .SetFocus
        Exit Sub
    End If
    TotalGroundTime2 = TotalGroundTimeBox2
    If TotalGroundTime2 < 0 Then
        MsgBox "Please enter a nonnegative value for the Total Ground Time."
        .SetFocus
        Exit Sub
    End If
End With

    With RTFTBox3
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "Please enter a numeric value for the Round Trip Flying Time first."
        .SetFocus
        Exit Sub
    End If
    RTFT3 = RTFTBox3
    If RTFT3 < 0 Then
        MsgBox "Please enter a nonnegative value for the Round Trip Flying Time."
        .SetFocus
        Exit Sub
    End If
```

```
    End With
    With TotalGroundTimeBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Total Ground Time first."
            .SetFocus
            Exit Sub
        End If
        TotalGroundTime3 = TotalGroundTimeBox3
        If TotalGroundTime3 < 0 Then
            MsgBox "Please enter a nonnegative value for the Total Ground Time."
            .SetFocus
            Exit Sub
        End If
    End With
' Calculates the Cycle Time
    CycleTime = RTFT + TotalGroundTime
    CycleTime2 = RTFT2 + TotalGroundTime2
    CycleTime3 = RTFT3 + TotalGroundTime3
' Enters the cycle time into the form
    CycleTime = RoundNear(CycleTime, 0.1)
    With CycleTimeBox
        CycleTimeBox = CycleTime
    End With
    CycleTime2 = RoundNear(CycleTime2, 0.1)
    With CycleTimeBox2
        CycleTimeBox2 = CycleTime2
    End With
    CycleTime3 = RoundNear(CycleTime3, 0.1)
    With CycleTimeBox3
        CycleTimeBox3 = CycleTime3
    End With
End Sub

Private Sub CmdDone_Click()
' Informs user clicking button will erase and shut form, and ensures user wishes to
continue
    Result = MsgBox("This will close the form, erasing all data." & vbCrLf _
        & vbCrLf & "Do you want to continue closing this form?", _
        vbYesNo, "Close Forms")
    If Result = 6 Then
        ThisWorkbook.Worksheets("Tanker Employment").Activate
        Unload Me
        Unload InputFuelReqData
        Unload InputFuelAvailData
        Unload InputFirstRTFTData
        Unload InputAdditionalRTFTData
```

```
        Unload InputFinalRTFTData
        Unload InputGroundTimeData
        Unload InputAircrewIntData
        Unload InputBaseIntData
        TrackRTFTEnter = 0
        ReturnToForm = 0
' Unload InputAircraftIntData   ***  Hiding this command til debugged.
' (Will only unload if data had been entered into form, otherwise hits a bug)
    Else
        Exit Sub
    End If
End Sub


Private Sub CmdInstructions_Click()
' Calls the form to give instructions to the user
    InstructionsPg1.Show
End Sub

Private Sub Cmdprint_Click()
    MainInput.PrintForm
End Sub

Private Sub CmdTotalGroundTime_Click()
    Dim Result As Integer

' Calls form to enter total ground time

    InputGroundTimeData.Show

    With TotalGroundTimeBox
        TotalGroundTimeBox = TotalGroundTime
    End With

    With TotalGroundTimeBox2
        TotalGroundTimeBox2 = TotalGroundTime2
    End With

    With TotalGroundTimeBox3
        TotalGroundTimeBox3 = TotalGroundTime3
    End With
End Sub



Sub InputTotalGroundTime()
```

```
End Sub


Sub CheckInputsMaxFuel()
' Ensures Offload Available and the aircraft, aircrew and stations intervals have been
entered
   With OffloadAvailBox
      If .Value = "" Or Not IsNumeric(.Value) Then
         MsgBox "A numerical number for Offload Available is required to calculate the
Maximum Fuel Available."
          .SetFocus
          BoxCheck = 1
        Exit Sub
      End If
      OffloadAvail = OffloadAvailBox
      If OffloadReq < 0 Then
         MsgBox "That Offload Available should be a nonnegative value in order to
calculate the Maximum Fuel Available."
          .SetFocus
           BoxCheck = 1
         Exit Sub
      End If
   End With
   With AircraftIntBox
      If .Value = "" Or Not IsNumeric(.Value) Then
         MsgBox "A numerical number for Aircraft Sortie Generation rate" & _
            " is required to calculate the Maximum Fuel Available."
         .SetFocus
         BoxCheck = 1
         Exit Sub
      End If
      AircraftInt = AircraftIntBox
      If OffloadReq < 0 Then
         MsgBox "That Aircraft Sortie Generation rate should be a " & _
            "nonnegative value in order to calculate the Maximum Fuel Available."
         .SetFocus
          BoxCheck = 1
         Exit Sub
      End If
   End With
   With AircrewIntBox
      If .Value = "" Or Not IsNumeric(.Value) Then
         MsgBox "A numerical number for Aircrew Sortie Generation rate" & _
            " is required to calculate the Maximum Fuel Available."
```

```
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        AircrewInt = AircrewIntBox
        If OffloadReq < 0 Then
            MsgBox "That Aircrew Sortie Generation rate should be a " & _
                "nonnegative value in order to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With BaseIntBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "A numerical number for Base Sortie Generation rate" & _
                " is required to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        BaseInt = BaseIntBox
        If OffloadReq < 0 Then
            MsgBox "The Base Sortie Generation rate should be a " & _
                "nonnegative value in order to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With

    'tanker2
    ' Ensures Offload Available and the aircraft, aircrew and stations intervals have been
entered
    With OffloadAvailBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "A numerical number for Offload Available is required to calculate the
Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
          Exit Sub
        End If
        OffloadAvail2 = OffloadAvailBox2
        If OffloadReq < 0 Then
            MsgBox "That Offload Available should be a nonnegative value in order to
calculate the Maximum Fuel Available."
```

```
        .SetFocus
         BoxCheck = 1
        Exit Sub
    End If
End With
With AircraftIntBox2
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "A numerical number for Aircraft Sortie Generation rate" & _
            " is required to calculate the Maximum Fuel Available."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
    AircraftInt2 = AircraftIntBox2
    If OffloadReq < 0 Then
        MsgBox "That Aircraft Sortie Generation rate should be a " & _
            "nonnegative value in order to calculate the Maximum Fuel Available."
        .SetFocus
         BoxCheck = 1
        Exit Sub
    End If
End With
With AircrewIntBox2
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "A numerical number for Aircrew Sortie Generation rate" & _
            " is required to calculate the Maximum Fuel Available."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
    AircrewInt2 = AircrewIntBox2
    If OffloadReq < 0 Then
        MsgBox "That Aircrew Sortie Generation rate should be a " & _
            "nonnegative value in order to calculate the Maximum Fuel Available."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
End With
With BaseIntBox2
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "A numerical number for Base Sortie Generation rate" & _
            " is required to calculate the Maximum Fuel Available."
        .SetFocus
        BoxCheck = 1
        Exit Sub
```

```
        End If
        BaseInt2 = BaseIntBox2
        If OffloadReq < 0 Then
           MsgBox "The Base Sortie Generation rate should be a " & _
              "nonnegative value in order to calculate the Maximum Fuel Available."
           .SetFocus
           BoxCheck = 1
           Exit Sub
        End If
     End With

     'tanker3
     ' Ensures Offload Available and the aircraft, aircrew and stations intervals have been
entered
     With OffloadAvailBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
           MsgBox "A numerical number for Offload Available is required to calculate the
Maximum Fuel Available."
           .SetFocus
           BoxCheck = 1
          Exit Sub
        End If
        OffloadAvail3 = OffloadAvailBox3
        If OffloadReq < 0 Then
           MsgBox "That Offload Available should be a nonnegative value in order to
calculate the Maximum Fuel Available."
           .SetFocus
            BoxCheck = 1
          Exit Sub
        End If
     End With
     With AircraftIntBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
           MsgBox "A numerical number for Aircraft Sortie Generation rate" & _
              " is required to calculate the Maximum Fuel Available."
           .SetFocus
           BoxCheck = 1
           Exit Sub
        End If
        AircraftInt3 = AircraftIntBox3
        If OffloadReq < 0 Then
           MsgBox "That Aircraft Sortie Generation rate should be a " & _
              "nonnegative value in order to calculate the Maximum Fuel Available."
           .SetFocus
            BoxCheck = 1
          Exit Sub
```

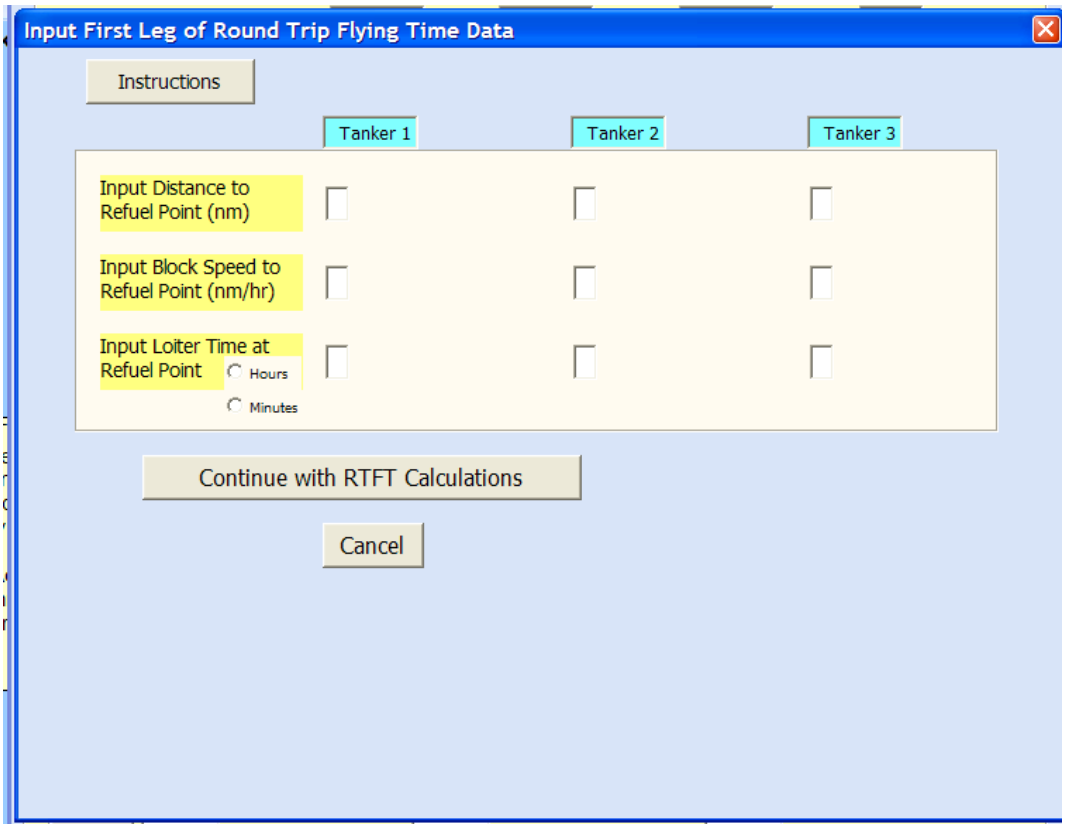
```
        End If
    End With
    With AircrewIntBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "A numerical number for Aircrew Sortie Generation rate" & _
                " is required to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        AircrewInt3 = AircrewIntBox3
        If OffloadReq < 0 Then
            MsgBox "That Aircrew Sortie Generation rate should be a " & _
                "nonnegative value in order to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With BaseIntBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "A numerical number for Base Sortie Generation rate" & _
                " is required to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        BaseInt3 = BaseIntBox3
        If OffloadReq < 0 Then
            MsgBox "The Base Sortie Generation rate should be a " & _
                "nonnegative value in order to calculate the Maximum Fuel Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
End Sub


Sub CheckInputsMissionReq()
' First checks to ensure offload required and offload available data has been entered
    With OffloadReqBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Offload Required."
            .SetFocus
            BoxCheck = 1
```

```
            Exit Sub
        End If
        OffloadReq = OffloadReqBox
        If OffloadReq < 0 Then
            MsgBox "Please enter a nonnegative value for the Offload Required."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With OffloadAvailBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Offload Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        OffloadAvail = OffloadAvailBox
        If OffloadAvail < 0 Then
            MsgBox "Please enter a nonnegative value for the Offload Available."
            .SetFocus
             BoxCheck = 1
           Exit Sub
        End If
    End With
'tanker2 First checks to ensure offload required and offload available data has been
entered

    With OffloadAvailBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Offload Available."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        OffloadAvail2 = OffloadAvailBox2
        If OffloadAvail2 < 0 Then
            MsgBox "Please enter a nonnegative value for the Offload Available."
            .SetFocus
             BoxCheck = 1
           Exit Sub
        End If
    End With
        With OffloadAvailBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Offload Available."
```

```
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        OffloadAvail3 = OffloadAvailBox3
        If OffloadAvail3 < 0 Then
            MsgBox "Please enter a nonnegative value for the Offload Available."
            .SetFocus
             BoxCheck = 1
           Exit Sub
        End If
    End With


End Sub




Private Sub maxboommissionbox_Change()

End Sub

Private Sub CmdTotalGroundTime2_Click()

End Sub



Private Sub maxboomtankertypebox_Change()

End Sub

Private Sub Label2_Click()

End Sub

Private Sub MinMissionFrame_Click()

End Sub

Private Sub MissionReqBox_Change()
```

```
End Sub

Private Sub OffloadAvailBox_Change()

End Sub

Private Sub OffloadAvailBox2_Change()

End Sub

Private Sub OffloadAvailBox3_Change()

End Sub

Private Sub OffloadAvailTT1_Click()

    With OffloadAvailTT1Box
    OffloadAvailTT1Box = OffloadAvailBox * aircraft1count
    End With
    With OffloadAvailTT2Box
    OffloadAvailTT2Box = OffloadAvailBox2 * aircraft2count
    End With
    With OffloadAvailTT3Box
    OffloadAvailTT3Box = OffloadAvailBox3 * aircraft3count
    End With
    With OffloadAvailTTTBox
    OffloadAvailTTTBox = OffloadAvailTT1Box * 1 + 1 * OffloadAvailTT2Box + 1 *
OffloadAvailTT3Box
    End With
    With aircrafttcount
    aircrafttcount = aircraft1count * 1 + aircraft2count * 1 + aircraft3count * 1
    End With


End Sub


Private Sub OffloadAvailTT1Box_Change()


End Sub

Private Sub RTFTBox_Change()

End Sub
```

```
Private Sub RTFTBox2_Change()

End Sub

Private Sub TextBox13_Change()

End Sub

Private Sub TextBox19_Change()

End Sub

Private Sub TextBox24_Change()

End Sub

Private Sub TextBox6_Change()

End Sub

Private Sub TextBox7_Change()

End Sub

Private Sub UserForm_Click()

End Sub
```




```
Option Explicit

Dim TempDistance As Long, TempBlockSpeed As Long, TempTimeatPoint As Variant,
_
    BoxCheck As Integer, LegTime As Variant, FuelBurn As Long, FuelUse As Long,
TempDistance2 As Long, _
    BoxCheck2 As Integer, TempBlockSpeed2 As Long, TempTimeatPoint2 As Variant, _
    TempDistance3 As Long, BoxCheck3 As Integer, TempBlockSpeed3 As Long, _
    TempTimeatPoint3 As Variant
    ' not needed TempQEfficiency As Variant,

Private Sub CancelCommandButton_Click()
    Unload Me
End Sub

Private Sub cmdContinueWithRTFT_Click()
    Dim Result As Integer
' Calls subroutine to check if inputs are valid
    BoxCheck = 0
    Call CheckInputs
    If BoxCheck = 1 Then
        Exit Sub
    End If
```

```
' Calls subroutine to calculate Round Trip Flying Time
   Call CalculateRTFT

' Prompts to see if user would like to add an additional leg to the trip
' If not, continues on to return leg
    Result = MsgBox("Do you want to add another leg to the mision?", _
        vbYesNo, "Add Additional Legs to the Mission?")
    If Result = 6 Then
    ' Sets the input row so that additional rows of info may be added on the data worksheet
        InputAdditionalRTFTData.Show
    Else
        InputFinalRTFTData.Show
    End If
'Unload the form
    Unload Me
End Sub

Sub CheckInputs()
' Checks to ensure users inputs are numeric
' Assigns users inputs to temporary variables used to calculate Round Trip Flying Time
    With DistanceBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the distance."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempDistance = DistanceBox
        If TempDistance < 0 Then
            MsgBox "Please enter a nonnegative value for the distance."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With BlockSpeedBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the True Air Speed."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempBlockSpeed = BlockSpeedBox
        If TempBlockSpeed < 0 Then
            MsgBox "Please enter a nonnegative value for the True Air Speed."
            .SetFocus
```

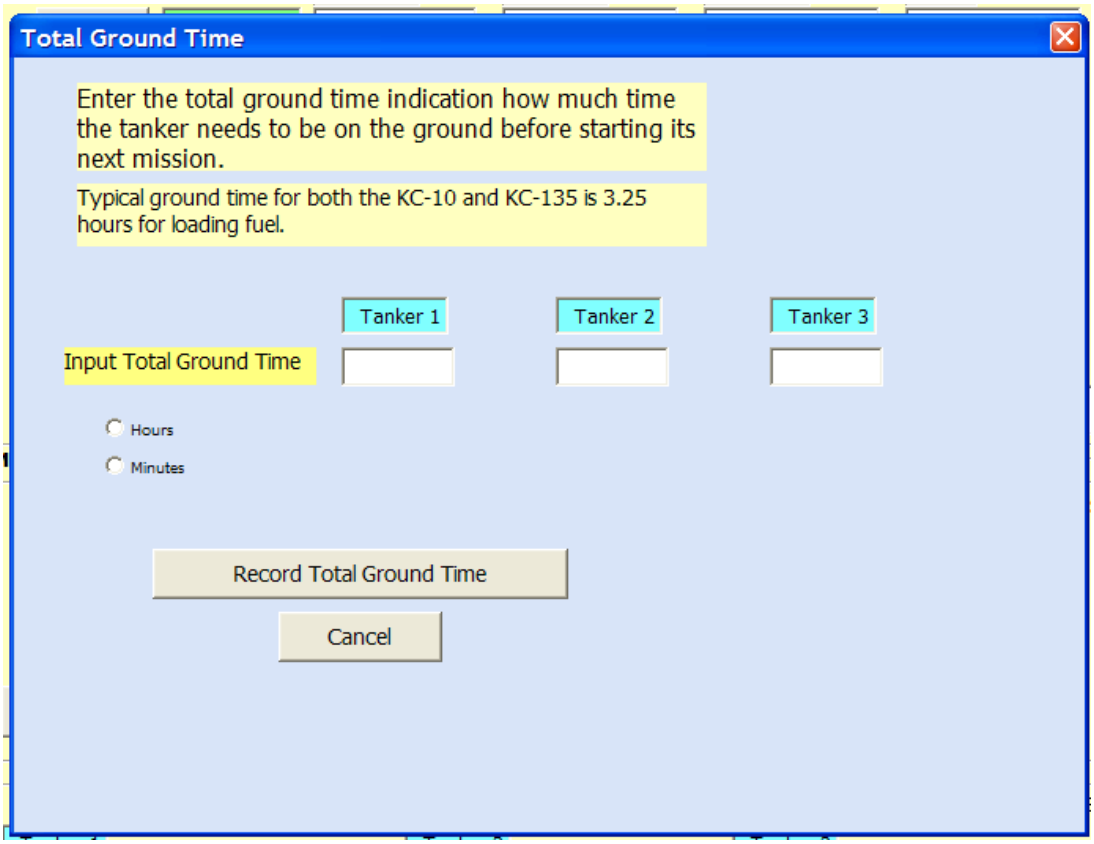
```
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With TimeatPointBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the FuelFlow."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempTimeatPoint = TimeatPointBox
        If TempTimeatPoint < 0 Then
            MsgBox "Please enter a nonnegative value for the Average Fuel Burn Rate."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    If HoursOption = False And MinutesOption = False Then
        MsgBox "Please indicate if the time is in hours or minutes."
        BoxCheck = 1
        Exit Sub
    ElseIf MinutesOption = True Then
        TempTimeatPoint = TempTimeatPoint \ 60
    End If
'    With QEfficiencyBox
'    If .Value = "" Or Not IsNumeric(.Value) Then
'        MsgBox "Please enter a numeric value for the Receivers' Efficiency."
'        BoxCheck = 1
'        .SetFocus
'        Exit Sub
'    End If
'    TempQEfficiency = QEfficiencyBox
'    If TempQEfficiency < 0 Or TempQEfficiency > 1 Then
'        MsgBox "Please enter a number between 0 and 1 for the base's Receivers'
Efficiency."
'        BoxCheck = 1
'        .SetFocus
'        Exit Sub
'    End If
'    End With
'tanker2
With DistanceBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the distance."
```

```
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
    TempDistance2 = DistanceBox2
    If TempDistance2 < 0 Then
        MsgBox "Please enter a nonnegative value for the distance."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
End With
With BlockSpeedBox2
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "Please enter a numeric value for the True Air Speed."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
    TempBlockSpeed2 = BlockSpeedBox2
    If TempBlockSpeed < 0 Then
        MsgBox "Please enter a nonnegative value for the True Air Speed."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
End With
With TimeatPointBox2
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "Please enter a numeric value for the FuelFlow."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
    TempTimeatPoint2 = TimeatPointBox2
    If TempTimeatPoint < 0 Then
        MsgBox "Please enter a nonnegative value for the Average Fuel Burn Rate."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
End With
If HoursOption = False And MinutesOption = False Then
    MsgBox "Please indicate if the time is in hours or minutes."
    BoxCheck = 1
    Exit Sub
```

```
    ElseIf MinutesOption = True Then
       TempTimeatPoint2 = TempTimeatPoint2 \ 60
    End If
'    With QEfficiencyBox
'    If .Value = "" Or Not IsNumeric(.Value) Then
'       MsgBox "Please enter a numeric value for the Receivers' Efficiency."
'       BoxCheck = 1
'       .SetFocus
'       Exit Sub
'    End If
'    TempQEfficiency = QEfficiencyBox
'    If TempQEfficiency < 0 Or TempQEfficiency > 1 Then
'       MsgBox "Please enter a number between 0 and 1 for the base's Receivers'
Efficiency."
'       BoxCheck = 1
'       .SetFocus
'       Exit Sub
'    End If
'    End With

'tanker 3
With DistanceBox3
       If .Value = "" Or Not IsNumeric(.Value) Then
          MsgBox "Please enter a numeric value for the distance."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
       TempDistance3 = DistanceBox3
       If TempDistance3 < 0 Then
          MsgBox "Please enter a nonnegative value for the distance."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
    End With
    With BlockSpeedBox3
       If .Value = "" Or Not IsNumeric(.Value) Then
          MsgBox "Please enter a numeric value for the True Air Speed."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
       TempBlockSpeed3 = BlockSpeedBox3
       If TempBlockSpeed3 < 0 Then
          MsgBox "Please enter a nonnegative value for the True Air Speed."
```

```
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With TimeatPointBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the FuelFlow."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempTimeatPoint3 = TimeatPointBox3
        If TempTimeatPoint3 < 0 Then
            MsgBox "Please enter a nonnegative value for the Average Fuel Burn Rate."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    If HoursOption = False And MinutesOption = False Then
        MsgBox "Please indicate if the time is in hours or minutes."
        BoxCheck = 1
        Exit Sub
    ElseIf MinutesOption = True Then
        TempTimeatPoint3 = TempTimeatPoint3 \ 60
    End If
'   With QEfficiencyBox
'   If .Value = "" Or Not IsNumeric(.Value) Then
'       MsgBox "Please enter a numeric value for the Receivers' Efficiency."
'       BoxCheck = 1
'       .SetFocus
'       Exit Sub
'   End If
'   TempQEfficiency = QEfficiencyBox
'   If TempQEfficiency < 0 Or TempQEfficiency > 1 Then
'       MsgBox "Please enter a number between 0 and 1 for the base's Receivers'
Efficiency."
'       BoxCheck = 1
'       .SetFocus
'       Exit Sub
'   End If
'   End With
End Sub

Sub CalculateRTFT()
```

```
'Calculate Round Trip Flying Time
   RTFT = (TempDistance / TempBlockSpeed + TempTimeatPoint) '  *
TempQEfficiency
   RTFT2 = (TempDistance2 / TempBlockSpeed2 + TempTimeatPoint2) '  *
TempQEfficiency
   RTFT3 = (TempDistance3 / TempBlockSpeed3 + TempTimeatPoint3) '  *
TempQEfficiency
End Sub


Private Sub CmdInstructions_Click()
   InstructionsRTFT.Show
End Sub

Private Sub DistanceBox_Change()

End Sub

Private Sub TextBox3_Change()

End Sub

Private Sub UserForm_Click()

End Sub
```




```
Option Explicit

Dim TempDistance As Long, TempBlockSpeed As Long, TempTimeatPoint As Variant,
_
   BoxCheck As Integer, LegTime As Variant, FuelBurn As Long, FuelUse As Long,
TempDistance2 As Long, _
   BoxCheck2 As Integer, TempBlockSpeed2 As Long, TempTimeatPoint2 As Variant, _
   TempDistance3 As Long, BoxCheck3 As Integer, TempBlockSpeed3 As Long, _
   TempTimeatPoint3 As Variant
   ' not needed TempQEfficiency As Variant,

Private Sub CancelCommandButton_Click()
   Unload Me
End Sub

Private Sub cmdContinueWithRTFT_Click()
   Dim Result As Integer
' Calls subroutine to check if inputs are valid
   BoxCheck = 0
   Call CheckInputs
   If BoxCheck = 1 Then
      Exit Sub
```

```
    End If
' Calls subroutine to calculate Round Trip Flying Time
   Call CalculateRTFT

' Prompts to see if user would like to add an additional leg to the trip
' If not, continues on to return leg
    Result = MsgBox("Do you want to add another leg to the mision?", _
       vbYesNo, "Add Additional Legs to the Mission?")
    If Result = 6 Then
    ' Sets the input row so that additional rows of info may be added on the data worksheet
       InputAdditionalRTFTData.Show
    Else
       InputFinalRTFTData.Show
    End If
'Unload the form
    Unload Me
End Sub

Sub CheckInputs()
' Checks to ensure users inputs are numeric
' Assigns users inputs to temporary variables used to calculate Round Trip Flying Time
    With DistanceBox
       If .Value = "" Or Not IsNumeric(.Value) Then
          MsgBox "Please enter a numeric value for the distance."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
       TempDistance = DistanceBox
       If TempDistance < 0 Then
          MsgBox "Please enter a nonnegative value for the distance."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
    End With
    With BlockSpeedBox
       If .Value = "" Or Not IsNumeric(.Value) Then
          MsgBox "Please enter a numeric value for the True Air Speed."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
       TempBlockSpeed = BlockSpeedBox
       If TempBlockSpeed < 0 Then
          MsgBox "Please enter a nonnegative value for the True Air Speed."
```

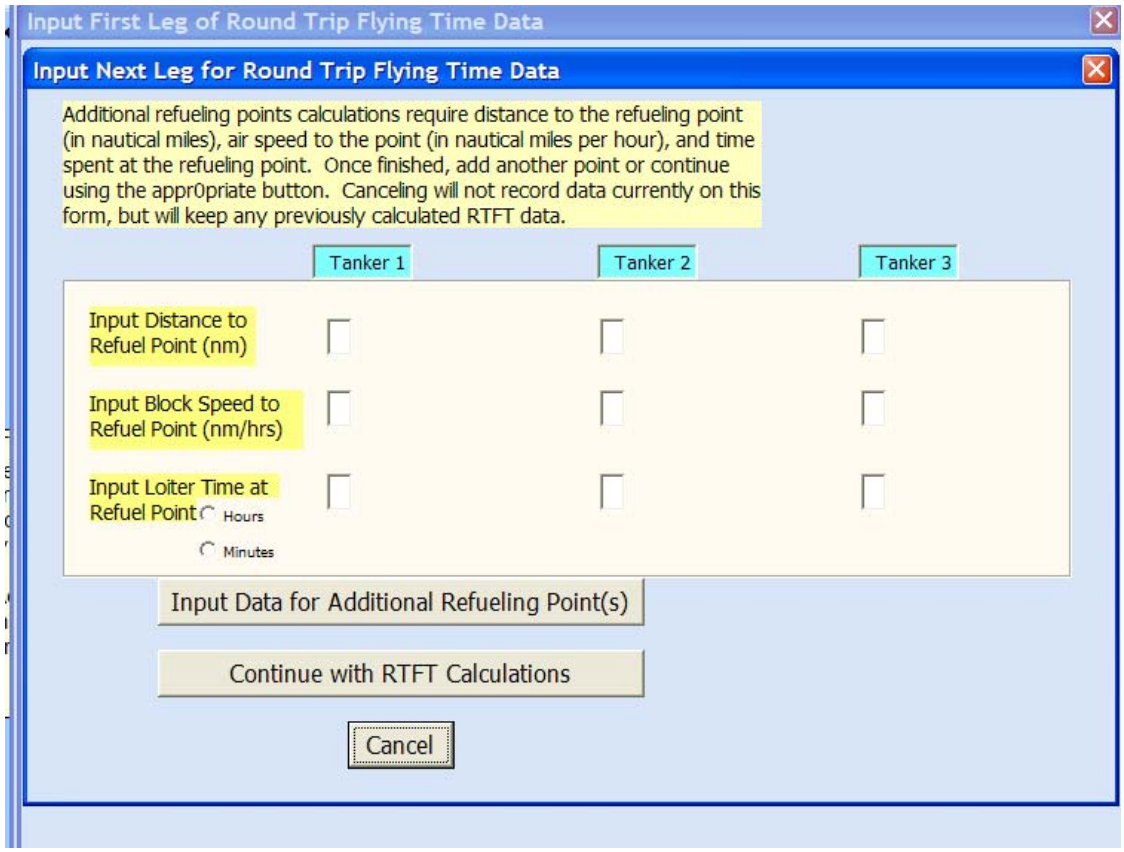
```
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With TimeatPointBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the FuelFlow."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempTimeatPoint = TimeatPointBox
        If TempTimeatPoint < 0 Then
            MsgBox "Please enter a nonnegative value for the Average Fuel Burn Rate."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    If HoursOption = False And MinutesOption = False Then
        MsgBox "Please indicate if the time is in hours or minutes."
        BoxCheck = 1
        Exit Sub
    ElseIf MinutesOption = True Then
        TempTimeatPoint = TempTimeatPoint \ 60
    End If
'    With QEfficiencyBox
'    If .Value = "" Or Not IsNumeric(.Value) Then
'        MsgBox "Please enter a numeric value for the Receivers' Efficiency."
'        BoxCheck = 1
'        .SetFocus
'        Exit Sub
'    End If
'    TempQEfficiency = QEfficiencyBox
'    If TempQEfficiency < 0 Or TempQEfficiency > 1 Then
'        MsgBox "Please enter a number between 0 and 1 for the base's Receivers'
Efficiency."
'        BoxCheck = 1
'        .SetFocus
'        Exit Sub
'    End If
'    End With
'tanker2
With DistanceBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
```

```
        MsgBox "Please enter a numeric value for the distance."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
    TempDistance2 = DistanceBox2
    If TempDistance2 < 0 Then
        MsgBox "Please enter a nonnegative value for the distance."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
End With
With BlockSpeedBox2
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "Please enter a numeric value for the True Air Speed."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
    TempBlockSpeed2 = BlockSpeedBox2
    If TempBlockSpeed < 0 Then
        MsgBox "Please enter a nonnegative value for the True Air Speed."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
End With
With TimeatPointBox2
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "Please enter a numeric value for the FuelFlow."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
    TempTimeatPoint2 = TimeatPointBox2
    If TempTimeatPoint < 0 Then
        MsgBox "Please enter a nonnegative value for the Average Fuel Burn Rate."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
End With
If HoursOption = False And MinutesOption = False Then
    MsgBox "Please indicate if the time is in hours or minutes."
    BoxCheck = 1
```

```
        Exit Sub
    ElseIf MinutesOption = True Then
        TempTimeatPoint2 = TempTimeatPoint2 \ 60
    End If
'   With QEfficiencyBox
'   If .Value = "" Or Not IsNumeric(.Value) Then
'       MsgBox "Please enter a numeric value for the Receivers' Efficiency."
'       BoxCheck = 1
'       .SetFocus
'       Exit Sub
'   End If
'   TempQEfficiency = QEfficiencyBox
'   If TempQEfficiency < 0 Or TempQEfficiency > 1 Then
'       MsgBox "Please enter a number between 0 and 1 for the base's Receivers'
Efficiency."
'       BoxCheck = 1
'       .SetFocus
'       Exit Sub
'   End If
'   End With

'tanker 3
With DistanceBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the distance."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempDistance3 = DistanceBox3
        If TempDistance3 < 0 Then
            MsgBox "Please enter a nonnegative value for the distance."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With BlockSpeedBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the True Air Speed."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempBlockSpeed3 = BlockSpeedBox3
        If TempBlockSpeed3 < 0 Then
```

```
            MsgBox "Please enter a nonnegative value for the True Air Speed."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With TimeatPointBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the FuelFlow."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempTimeatPoint3 = TimeatPointBox3
        If TempTimeatPoint3 < 0 Then
            MsgBox "Please enter a nonnegative value for the Average Fuel Burn Rate."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    If HoursOption = False And MinutesOption = False Then
        MsgBox "Please indicate if the time is in hours or minutes."
        BoxCheck = 1
        Exit Sub
    ElseIf MinutesOption = True Then
        TempTimeatPoint3 = TempTimeatPoint3 \ 60
    End If
'    With QEfficiencyBox
'    If .Value = "" Or Not IsNumeric(.Value) Then
'        MsgBox "Please enter a numeric value for the Receivers' Efficiency."
'        BoxCheck = 1
'        .SetFocus
'        Exit Sub
'    End If
'    TempQEfficiency = QEfficiencyBox
'    If TempQEfficiency < 0 Or TempQEfficiency > 1 Then
'        MsgBox "Please enter a number between 0 and 1 for the base's Receivers'
Efficiency."
'        BoxCheck = 1
'        .SetFocus
'        Exit Sub
'    End If
'    End With
End Sub
```

```
Sub CalculateRTFT()
'Calculate Round Trip Flying Time
   RTFT = (TempDistance / TempBlockSpeed + TempTimeatPoint) '  *
TempQEfficiency
   RTFT2 = (TempDistance2 / TempBlockSpeed2 + TempTimeatPoint2) '  *
TempQEfficiency
   RTFT3 = (TempDistance3 / TempBlockSpeed3 + TempTimeatPoint3) '  *
TempQEfficiency
End Sub


Private Sub CmdInstructions_Click()
   InstructionsRTFT.Show
End Sub

Private Sub DistanceBox_Change()

End Sub

Private Sub TextBox3_Change()

End Sub

Private Sub UserForm_Click()

End Sub
```




```
Option Explicit
   Dim TempDistance As Single, TempBlockSpeed As Single, TempTimeatPoint As
Variant, _
       BoxCheck As Integer, Result As Integer, _
       LegTime As Variant, FuelUse As Long, FuelBurn As Long, _
       TempDistance2 As Single, TempBlockSpeed2 As Single, TempTimeatPoint2 As
Variant, _
       TempDistance3 As Single, TempBlockSpeed3 As Single, TempTimeatPoint3 As
Variant
       ' TempQEfficiency As Variant

Private Sub CancelCommandButton_Click()
   Unload Me
' Checks to see if the user would like to stop calculations on RTFT, or not enter data for
' an addition leg
   Result = MsgBox("Data for the final leg has not been entered yet.  Do you want to
complete the RTFT " & _
       "calculations?" & vbCrLf & vbCrLf _
       & "Select Yes to return to main form, No to proceed to inputting data for final leg",
_
       vbYesNo, "End RTFT Calculations?")
   If Result = 7 Then
```

```
        InputFinalRTFTData.Show
    End If
End Sub

Sub CalculateRTFT()
' Calculates current leg's Round Trip Flying Time and adds to previous legs times
    RTFT = (TempDistance / TempBlockSpeed + TempTimeatPoint + RTFT) ' *
TempQEfficiency
    RTFT2 = (TempDistance2 / TempBlockSpeed2 + TempTimeatPoint2 + RTFT2) ' *
TempQEfficiency
    RTFT3 = (TempDistance3 / TempBlockSpeed3 + TempTimeatPoint3 + RTFT3) ' *
TempQEfficiency
   End Sub

Private Sub cmdContinueRTFT_Click()
    BoxCheck = 0
' Calls subroutine to see if each input is a non blank, non negative number, setting the
' variable BoxCheck to 1 if the input is not proper format
    Call CheckInputs
    If BoxCheck = 1 Then
        Exit Sub
    End If
' Calls subroutine to calculate Round Trip Flying Time
   Call CalculateRTFT
    ' Opens form to input data for return leg of Round Trip Flying Time
    InputFinalRTFTData.Show
'Unload the form
    Unload Me
End Sub

Private Sub CmdInputAdditionPoints_Click()
' Calls subroutine to check if inputs are valid
    BoxCheck = 0
    Call CheckInputs
    If BoxCheck = 1 Then
        Exit Sub
    End If
' Calls subroutine to calculate Round Trip Flying Time
    Call CalculateRTFT
' Resets form for additional inputs
    DistanceBox = ""
    BlockSpeedBox = ""
    TimeAtPointBox = ""
    DistanceBox2 = ""
    BlockSpeedBox2 = ""
    TimeAtPointBox2 = ""
```

```
    DistanceBox3 = ""
    BlockSpeedBox3 = ""
    TimeAtPointBox3 = ""
End Sub

Sub CheckInputs()
' Checks to ensure users inputs are numeric
' Assigns users inputs to temporary variables used to calculate Round Trip Flying Time
    With DistanceBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            Result = MsgBox("Do you want to continue without adding an additional
refueling point?", _
                vbYesNo, "Manual Enter")
            If Result = 6 Then
                InputFinalRTFTData.Show
                Unload Me
            End If
        MsgBox "Please enter a numeric value for the distance."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempDistance = DistanceBox
        If TempDistance < 0 Then
            MsgBox "Please enter a nonnegative value for the distance."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With BlockSpeedBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            Result = MsgBox("Do you want to continue without adding an additional
refueling point?", _
                vbYesNo, "Manual Enter")
            If Result = 6 Then
                InputFinalRTFTData.Show
                Unload Me
            End If
        MsgBox "Please enter a numeric value for the True Air Speed."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempBlockSpeed = BlockSpeedBox
        If TempBlockSpeed < 0 Then
```

```
            MsgBox "Please enter a nonnegative value for the True Air Speed."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With TimeAtPointBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            Result = MsgBox("Do you want to continue without adding an additional
refueling point?", _
                vbYesNo, "Manual Enter")
            If Result = 6 Then
                InputFinalRTFTData.Show
                Unload Me
            End If
            MsgBox "Please enter a numeric value for the FuelFlow."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempTimeatPoint = TimeAtPointBox
        If TempTimeatPoint < 0 Then
            MsgBox "Please enter a nonnegative value for the Average Fuel Burn Rate."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    If HoursOption = False And MinutesOption = False Then
        MsgBox "Please indicate if the time is in hours or minutes."
        BoxCheck = 1
        Exit Sub
    ElseIf MinutesOption = True Then
        TempTimeatPoint = TempTimeatPoint \ 60
    End If
'    With QEfficiencyBox
'        If .Value = "" Or Not IsNumeric(.Value) Then
'            MsgBox "Please enter a numeric value for the Receivers' Efficiency."
'            BoxCheck = 1
'            .SetFocus
'            Exit Sub
'        End If
'        TempQEfficiency = QEfficiencyBox
'        If TempQEfficiency < 0 Or TempQEfficiency > 1 Then
'            MsgBox "Please enter a number between 0 and 1 for the Receivers' Efficiency."
'            BoxCheck = 1
```

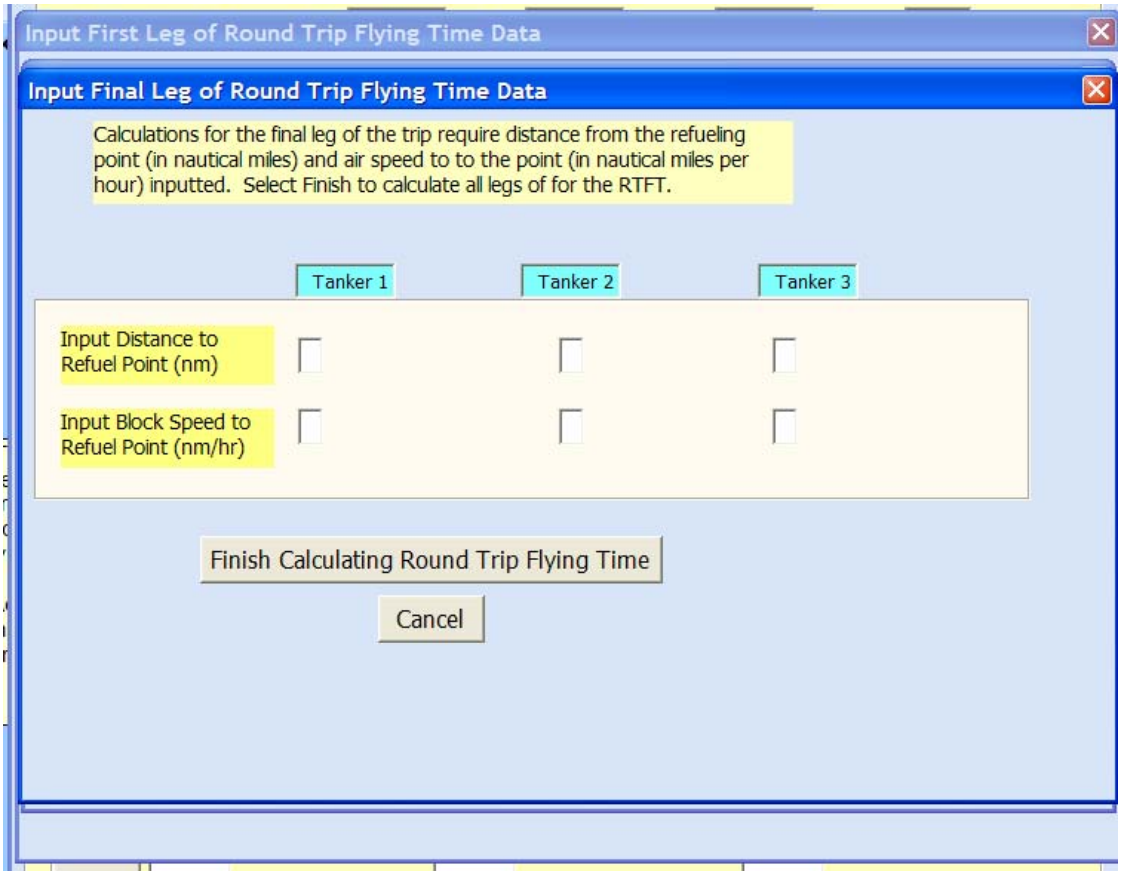
```
'           .SetFocus
'           Exit Sub
'       End If
'    End With

'tanker 2
With DistanceBox2
       If .Value = "" Or Not IsNumeric(.Value) Then
          Result = MsgBox("Do you want to continue without adding an additional
refueling point?", _
             vbYesNo, "Manual Enter")
          If Result = 6 Then
             InputFinalRTFTData.Show
             Unload Me
          End If
       MsgBox "Please enter a numeric value for the distance."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
       TempDistance2 = DistanceBox2
       If TempDistance < 0 Then
          MsgBox "Please enter a nonnegative value for the distance."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
    End With
    With BlockSpeedBox2
       If .Value = "" Or Not IsNumeric(.Value) Then
          Result = MsgBox("Do you want to continue without adding an additional
refueling point?", _
             vbYesNo, "Manual Enter")
          If Result = 6 Then
             InputFinalRTFTData.Show
             Unload Me
          End If
       MsgBox "Please enter a numeric value for the True Air Speed."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
       TempBlockSpeed2 = BlockSpeedBox2
       If TempBlockSpeed < 0 Then
          MsgBox "Please enter a nonnegative value for the True Air Speed."
          .SetFocus
```

```
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With TimeAtPointBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            Result = MsgBox("Do you want to continue without adding an additional
refueling point?", _
                vbYesNo, "Manual Enter")
            If Result = 6 Then
                InputFinalRTFTData.Show
                Unload Me
            End If
            MsgBox "Please enter a numeric value for the FuelFlow."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempTimeatPoint2 = TimeAtPointBox2
        If TempTimeatPoint < 0 Then
            MsgBox "Please enter a nonnegative value for the Average Fuel Burn Rate."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    If HoursOption = False And MinutesOption = False Then
        MsgBox "Please indicate if the time is in hours or minutes."
        BoxCheck = 1
        Exit Sub
    ElseIf MinutesOption = True Then
        TempTimeatPoint2 = TempTimeatPoint2 \ 60
    End If
'    With QEfficiencyBox
'        If .Value = "" Or Not IsNumeric(.Value) Then
'            MsgBox "Please enter a numeric value for the Receivers' Efficiency."
'            BoxCheck = 1
'            .SetFocus
'            Exit Sub
'        End If
'        TempQEfficiency = QEfficiencyBox
'        If TempQEfficiency < 0 Or TempQEfficiency > 1 Then
'            MsgBox "Please enter a number between 0 and 1 for the Receivers' Efficiency."
'            BoxCheck = 1
'            .SetFocus
'            Exit Sub
```

```
'       End If
'    End With
With DistanceBox3
       If .Value = "" Or Not IsNumeric(.Value) Then
          Result = MsgBox("Do you want to continue without adding an additional
refueling point?", _
             vbYesNo, "Manual Enter")
          If Result = 6 Then
             InputFinalRTFTData.Show
             Unload Me
          End If
       MsgBox "Please enter a numeric value for the distance."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
       TempDistance3 = DistanceBox3
       If TempDistance < 0 Then
          MsgBox "Please enter a nonnegative value for the distance."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
    End With
    With BlockSpeedBox3
       If .Value = "" Or Not IsNumeric(.Value) Then
          Result = MsgBox("Do you want to continue without adding an additional
refueling point?", _
             vbYesNo, "Manual Enter")
          If Result = 6 Then
             InputFinalRTFTData.Show
             Unload Me
          End If
       MsgBox "Please enter a numeric value for the True Air Speed."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
       TempBlockSpeed3 = BlockSpeedBox3
       If TempBlockSpeed < 0 Then
          MsgBox "Please enter a nonnegative value for the True Air Speed."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
    End With
```

```
    With TimeAtPointBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            Result = MsgBox("Do you want to continue without adding an additional
refueling point?", _
                vbYesNo, "Manual Enter")
            If Result = 6 Then
                InputFinalRTFTData.Show
                Unload Me
            End If
            MsgBox "Please enter a numeric value for the FuelFlow."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempTimeatPoint3 = TimeAtPointBox3
        If TempTimeatPoint < 0 Then
            MsgBox "Please enter a nonnegative value for the Average Fuel Burn Rate."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    If HoursOption = False And MinutesOption = False Then
        MsgBox "Please indicate if the time is in hours or minutes."
        BoxCheck = 1
        Exit Sub
    ElseIf MinutesOption = True Then
        TempTimeatPoint3 = TempTimeatPoint3 \ 60
    End If
'    With QEfficiencyBox
'        If .Value = "" Or Not IsNumeric(.Value) Then
'            MsgBox "Please enter a numeric value for the Receivers' Efficiency."
'            BoxCheck = 1
'            .SetFocus
'            Exit Sub
'        End If
'        TempQEfficiency = QEfficiencyBox
'        If TempQEfficiency < 0 Or TempQEfficiency > 1 Then
'            MsgBox "Please enter a number between 0 and 1 for the Receivers' Efficiency."
'            BoxCheck = 1
'            .SetFocus
'            Exit Sub
'        End If
'    End With
End Sub
```

```
Private Sub TextBox2_Change()

End Sub

Private Sub TimeatPointBox_Change()

End Sub

Private Sub UserForm_Click()

End Sub
```

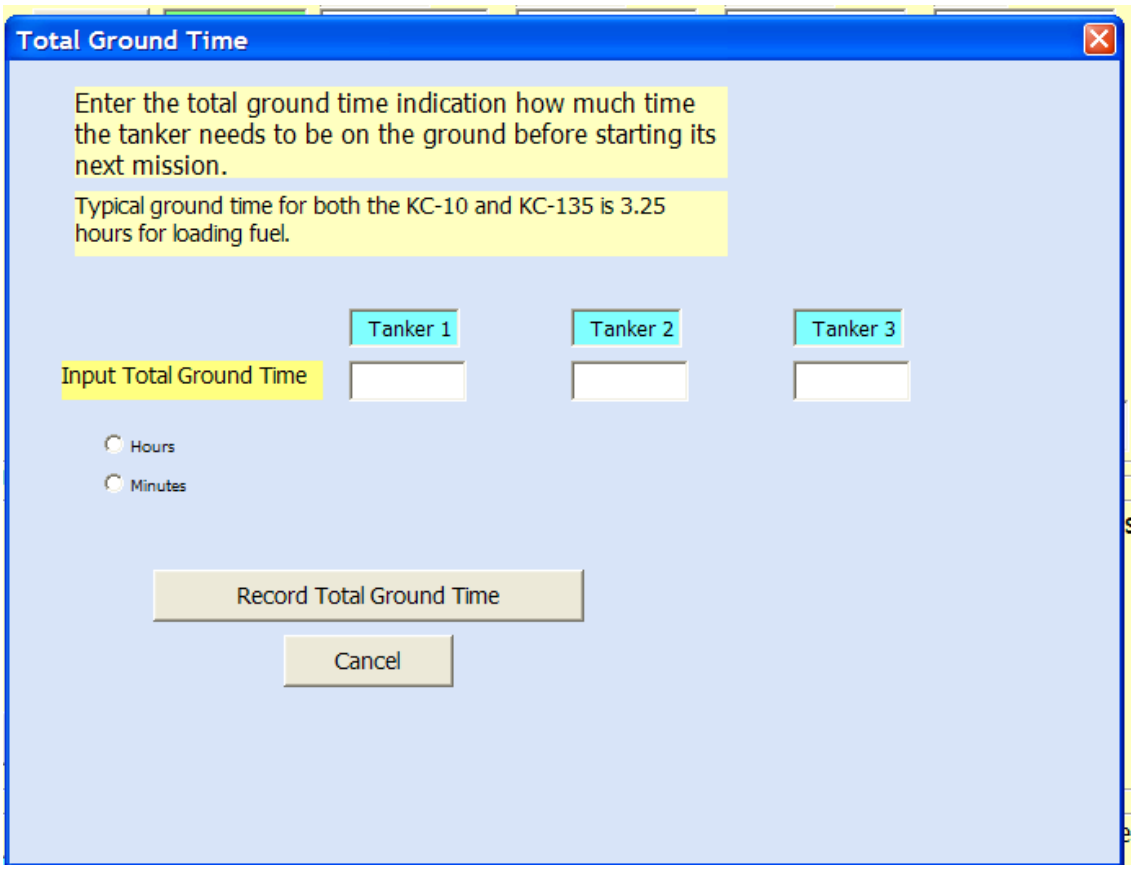



```
Option Explicit
   Dim TempDistance As Long, TempBlockSpeed As Long, BoxCheck As Integer, _
      LegTime As Variant, FuelUse As Long, FuelBurn As Long, _
      TempDistance2 As Long, TempBlockSpeed2 As Long, _
      TempDistance3 As Long, TempBlockSpeed3 As Long

Private Sub BlockSpeedBox_Change()

End Sub
```

```
Private Sub CancelCommandButton_Click()
   Unload Me
End Sub

Private Sub cmdContinueRTFT_Click()
' Calls subroutine to check if inputs are valid
   BoxCheck = 0
   Call CheckInputs
   If BoxCheck = 1 Then
      Exit Sub
   End If
'Calls subroutine to calculate final leg for Round Trip Flying Time
   Call CalculateFinalRTFT
'Unload the form
   Unload Me
End Sub
Sub CheckInputs()
' Checks to ensure users inputs are numeric
' Assigns users inputs to temporary variables used to calculate Round Trip Flying Time
   With DistanceBox
      If .Value = "" Or Not IsNumeric(.Value) Then
         MsgBox "Please enter a numeric value for the distance."
         .SetFocus
         BoxCheck = 1
         Exit Sub
      End If
      TempDistance = DistanceBox
      If TempDistance < 0 Then
         MsgBox "Please enter a nonnegative value for the distance."
         .SetFocus
         BoxCheck = 1
         Exit Sub
      End If
   End With
   With BlockSpeedBox
      If .Value = "" Or Not IsNumeric(.Value) Then
         MsgBox "Please enter a numeric value for the True Air Speed."
         .SetFocus
         BoxCheck = 1
         Exit Sub
      End If
      TempBlockSpeed = BlockSpeedBox
      If TempBlockSpeed < 0 Then
         MsgBox "Please enter a nonnegative value for the True Air Speed."
         .SetFocus
         BoxCheck = 1
```

```
        Exit Sub
    End If
End With

With DistanceBox2
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "Please enter a numeric value for the distance."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
    TempDistance2 = DistanceBox2
    If TempDistance2 < 0 Then
        MsgBox "Please enter a nonnegative value for the distance."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
End With
With BlockSpeedBox2
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "Please enter a numeric value for the True Air Speed."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
    TempBlockSpeed2 = BlockSpeedBox2
    If TempBlockSpeed2 < 0 Then
        MsgBox "Please enter a nonnegative value for the True Air Speed."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
End With

With DistanceBox3
    If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "Please enter a numeric value for the distance."
        .SetFocus
        BoxCheck = 1
        Exit Sub
    End If
    TempDistance3 = DistanceBox3
    If TempDistance3 < 0 Then
        MsgBox "Please enter a nonnegative value for the distance."
        .SetFocus
```

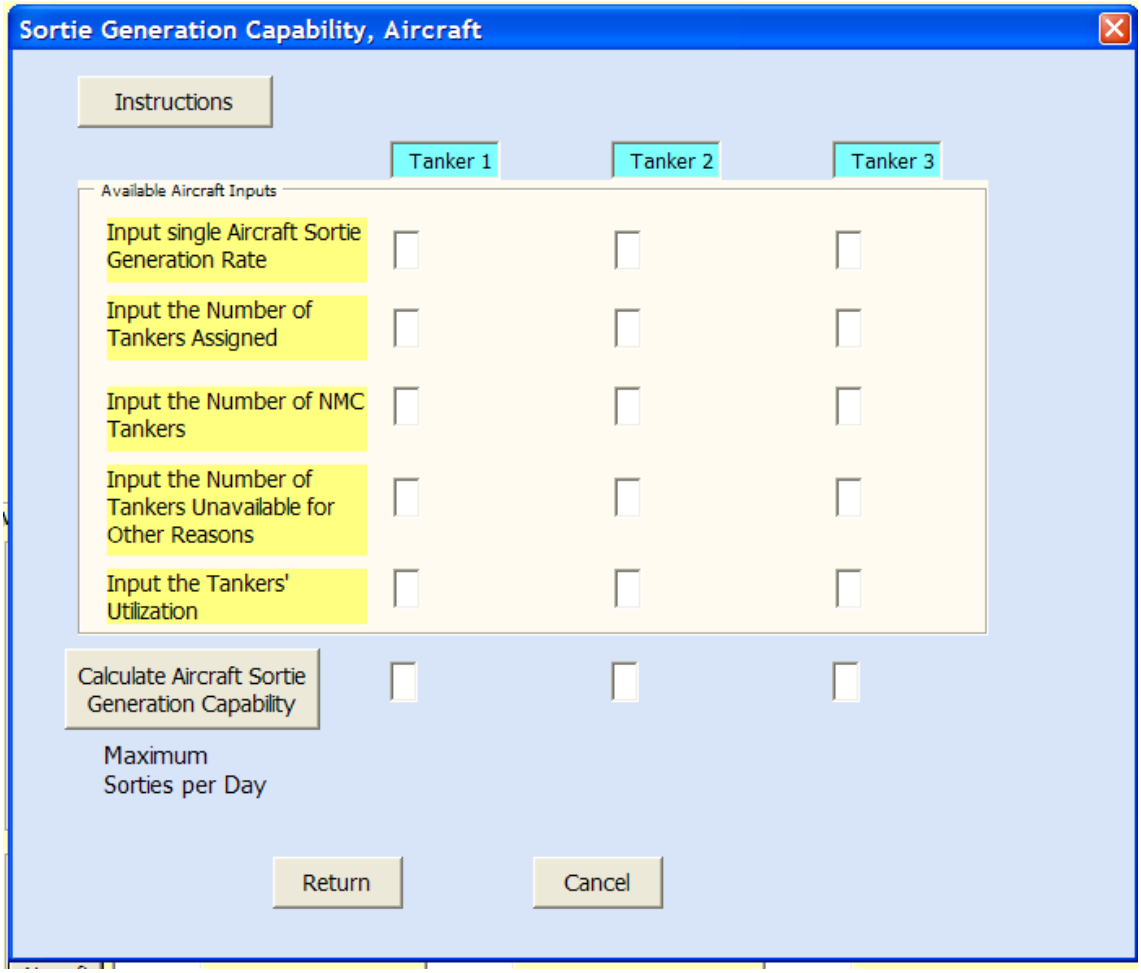
```
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With BlockSpeedBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the True Air Speed."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempBlockSpeed3 = BlockSpeedBox3
        If TempBlockSpeed3 < 0 Then
            MsgBox "Please enter a nonnegative value for the True Air Speed."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
End Sub

Sub CalculateFinalRTFT()
' Calculates current leg's Round Trip Flying Time and adds to previous legs times
    RTFT = (TempDistance \ TempBlockSpeed) + RTFT
    RTFT2 = (TempDistance2 \ TempBlockSpeed2) + RTFT2
    RTFT3 = (TempDistance3 \ TempBlockSpeed3) + RTFT3
End Sub




Private Sub DistanceBox_Change()

End Sub

Private Sub UserForm_Click()

End Sub
```




```
Option Explicit

Private Sub CmdCancel_Click()
' Returns the user to the previous form without calculating or recording any information
    Unload Me
End Sub

Private Sub CmdContCycleTimeCalc_Click()
' Ensures appropriate number has been entered for total ground time and assigns the value
to the ground time variable
    With GroundTimeBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Total Ground Time."
            .SetFocus
            Exit Sub
        End If
        TotalGroundTime = GroundTimeBox
        If TotalGroundTime < 0 Then
            MsgBox "Please enter a nonnegative value for the Total Ground Time."
            .SetFocus
            Exit Sub
        End If
```

```
End With
If HoursOption = False And MinutesOption = False Then
   MsgBox "Please indicate if this is in hours or minutes."
   Exit Sub
ElseIf MinutesOption = True Then
   TotalGroundTime = TotalGroundTime \ 60
End If

With GroundTimeBox2
   If .Value = "" Or Not IsNumeric(.Value) Then
      MsgBox "Please enter a numeric value for the Total Ground Time."
      .SetFocus
      Exit Sub
   End If
   TotalGroundTime2 = GroundTimeBox2
   If TotalGroundTime2 < 0 Then
      MsgBox "Please enter a nonnegative value for the Total Ground Time."
      .SetFocus
      Exit Sub
   End If
End With
If HoursOption = False And MinutesOption = False Then
   MsgBox "Please indicate if this is in hours or minutes."
   Exit Sub
ElseIf MinutesOption = True Then
   TotalGroundTime2 = TotalGroundTime2 \ 60
End If

With GroundTimeBox3
   If .Value = "" Or Not IsNumeric(.Value) Then
      MsgBox "Please enter a numeric value for the Total Ground Time."
      .SetFocus
      Exit Sub
   End If
   TotalGroundTime3 = GroundTimeBox3
   If TotalGroundTime3 < 0 Then
      MsgBox "Please enter a nonnegative value for the Total Ground Time."
      .SetFocus
      Exit Sub
   End If
End With
If HoursOption = False And MinutesOption = False Then
   MsgBox "Please indicate if this is in hours or minutes."
   Exit Sub
ElseIf MinutesOption = True Then
   TotalGroundTime3 = TotalGroundTime3 \ 60
```

```
    End If
    Unload Me
End Sub

Private Sub CmdKC10CycleInfo_Click()
' Displays message box with typical ground times for KC-10
    MsgBox "Typical Ground times for KC-10 are as follows: (More details later)", , "KC-
10 Typical Ground Times"
End Sub

Private Sub CmdKC135TGTInfo_Click()
' Displays message box with typical ground times for KC-135
    MsgBox "Typical Ground times for KC-135 are as follows: (More details later)", ,
"KC-135 Typical Ground Times"
End Sub

Private Sub UserForm_Click()

End Sub
```



```
Option Explicit

Dim TempAssigned As Integer, TempNMC As Integer, TempOther As Integer, _
      TempAvailable As Single, TempTankUtilization As Double, _
      BoxCheck As Integer, OneAircraftDailyGeneration As Double, _
      TempAssigned2 As Integer, TempNMC2 As Integer, TempOther2 As Integer, _
      TempAvailable2 As Single, TempTankUtilization2 As Double, _
      OneAircraftDailyGeneration2 As Double, _
      TempAssigned3 As Integer, TempNMC3 As Integer, TempOther3 As Integer, _
      TempAvailable3 As Single, TempTankUtilization3 As Double, _
      OneAircraftDailyGeneration3 As Double

Private Sub OneAircraftSortieGenBox_Change()

End Sub

Private Sub UserForm_Initialize()

' Enters sortie generation capability into form
   If CycleTime = 0 Then
      Exit Sub
   End If
   OneAircraftDailyGeneration = 24 / CycleTime
   OneAircraftDailyGeneration = RoundNear(OneAircraftDailyGeneration, 0.01)
   OneAircraftSortieGenBox.Value = OneAircraftDailyGeneration

   OneAircraftDailyGeneration2 = 24 / CycleTime2
   OneAircraftDailyGeneration2 = RoundNear(OneAircraftDailyGeneration2, 0.01)
   OneAircraftSortieGenBox2.Value = OneAircraftDailyGeneration2

   OneAircraftDailyGeneration3 = 24 / CycleTime3
   OneAircraftDailyGeneration3 = RoundNear(OneAircraftDailyGeneration3, 0.01)
   OneAircraftSortieGenBox3.Value = OneAircraftDailyGeneration3
End Sub
Private Sub CmdCalcAircraftInt_Click()
   BoxCheck = 0
' Calls subroutine to check if inputs are valid
   Call CheckInputs
   If BoxCheck = 1 Then
      Exit Sub
   End If
'Calculate Available Aircraft
   TempAvailable = (TempAssigned - TempNMC - TempOther) * TempTankUtilization
   TempAvailable2 = (TempAssigned2 - TempNMC2 - TempOther2) *
TempTankUtilization2
```

```
    TempAvailable3 = (TempAssigned3 - TempNMC3 - TempOther3) *
TempTankUtilization3
'Calculate Aircraft Interval
    AircraftInt = TempAvailable * OneAircraftDailyGeneration
    AircraftInt = RoundNear(AircraftInt, 0.1)
    If AircraftInt < 0 Then
        AircraftInt = 0
    End If
    TempAircraftSortieGenBox = AircraftInt

    AircraftInt2 = TempAvailable2 * OneAircraftDailyGeneration2
    AircraftInt2 = RoundNear(AircraftInt2, 0.1)
    If AircraftInt2 < 0 Then
        AircraftInt2 = 0
    End If
    TempAircraftSortieGenBox2 = AircraftInt2

    AircraftInt3 = TempAvailable3 * OneAircraftDailyGeneration3
    AircraftInt3 = RoundNear(AircraftInt3, 0.1)
    If AircraftInt3 < 0 Then
        AircraftInt3 = 0
    End If
    TempAircraftSortieGenBox3 = AircraftInt3

End Sub

Private Sub CmdCancel_Click()
' Returns user to previous form without saving data
    Unload Me
End Sub

Private Sub CmdInstructions_Click()
    InstructionsAircraftInt.Show
End Sub

Sub CheckInputs()
' Checks to ensure users inputs are numeric,  the utilization is between 0 and 1, _
' and that NMC and Other aircraft total does not exceed the available aircraft
' Assigns users inputs to temporary variables to calculate available aircraft required
    With OneAircraftSortieGenBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the daily sortie generation capabibility
of one aircraft."
            .SetFocus
            BoxCheck = 1
            Exit Sub
```

```
        End If
        OneAircraftDailyGeneration = OneAircraftSortieGenBox
        If OneAircraftDailyGeneration < 0 Then
           MsgBox "Please enter a nonnegative value for the daily sortie generation
capabibility of one aircraft."
           .SetFocus
           BoxCheck = 1
           Exit Sub
        End If
     End With
     With AssignedBox
        If .Value = "" Or Not IsNumeric(.Value) Then
           MsgBox "Please enter a numeric value for the Total Assigned Aircraft."
           .SetFocus
           BoxCheck = 1
           Exit Sub
        End If
        TempAssigned = AssignedBox
        If TempAssigned < 0 Then
           MsgBox "Please enter a nonnegative value for the Assigned Aircraft."
           .SetFocus
           BoxCheck = 1
           Exit Sub
        End If
     End With
     With NMCBox
        If Not IsNumeric(.Value) Then
           MsgBox "Please enter a numeric value for the Non Mission Capable Aircraft."
           .SetFocus
           BoxCheck = 1
           Exit Sub
        End If
        TempNMC = NMCBox
        If TempNMC < 0 Then
           MsgBox "Please enter a nonnegative value for the Non Mission Capable
Aircraft."
           .SetFocus
           BoxCheck = 1
           Exit Sub
        End If
        If TempNMC > TempAssigned Then
           MsgBox "The number of the Non Mission Capable Aircraft must be less than " &
_
              "the number of Assigned Aircraft." & vbCrLf & vbCrLf _
              & "Please reenter the number."
           BoxCheck = 1
```

```
            .SetFocus
            Exit Sub
        End If
    End With
    With OtherBox
      If Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Aircraft Unavailable for Other
Reasons."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempOther = OtherBox
        If TempOther < 0 Then
            MsgBox "Please enter a nonnegative value for the Aircraft Unavailable for Other
Reasons."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        If TempOther > TempAssigned Then
            MsgBox "The number of the Aircraft Unavailable for Other reasons must " & _
               "be less than the number of Assigned Aircraft." & vbCrLf & vbCrLf _
               & "Please reenter the number."
            BoxCheck = 1
            .SetFocus
            Exit Sub
        End If
    End With
    If TempNMC + TempOther > TempAssigned Then
        MsgBox "The number of Non Mission Capable Aircraft plus the Aircraft
Unavailable for Other " & _
            "Reasons must total less than the number of Assigned Aircraft." & vbCrLf &
vbCrLf _
            & "Please recheck and reenter these numbers."
        BoxCheck = 1
        Exit Sub
    End If
    With QEfficiencyBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Aircraft's Utilization."
            .SetFocus
             BoxCheck = 1
           Exit Sub
        End If
        TempTankUtilization = QEfficiencyBox
```

```
        If TempTankUtilization < 0 Or TempTankUtilization > 1 Then
            MsgBox "Please enter a number between 0 and 1 for the Aircraft's Utilization."
            .SetFocus
             BoxCheck = 1
           Exit Sub
        End If
    End With

'tanker2

' Checks to ensure users inputs are numeric,  the utilization is between 0 and 1, _
' and that NMC and Other aircraft total does not exceed the available aircraft
' Assigns users inputs to temporary variables to calculate available aircraft required
    With OneAircraftSortieGenBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the daily sortie generation capabibility
of one aircraft."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        OneAircraftDailyGeneration2 = OneAircraftSortieGenBox2
        If OneAircraftDailyGeneration2 < 0 Then
            MsgBox "Please enter a nonnegative value for the daily sortie generation
capabibility of one aircraft."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With AssignedBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Total Assigned Aircraft."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempAssigned2 = AssignedBox2
        If TempAssigned3 < 0 Then
            MsgBox "Please enter a nonnegative value for the Assigned Aircraft."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With NMCBox2
```

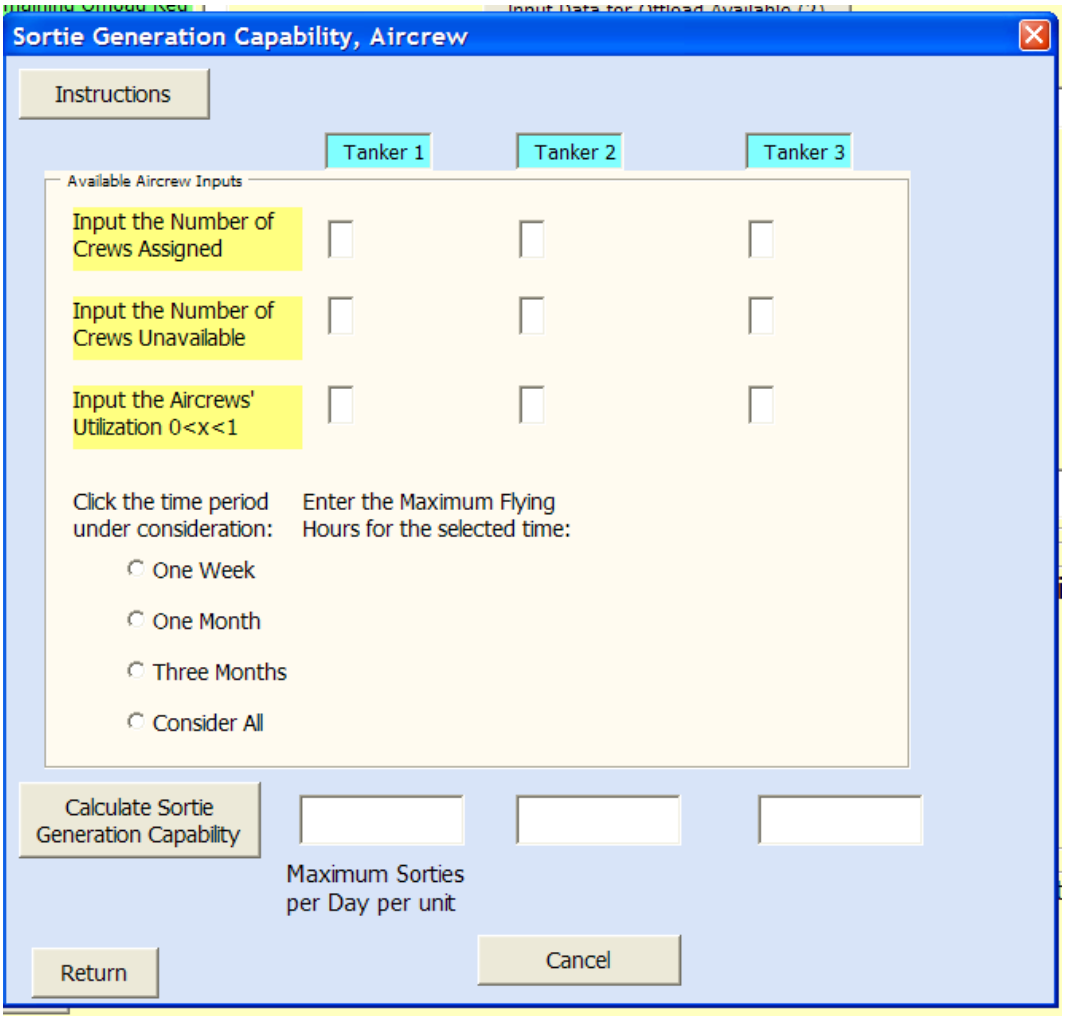
```
      If Not IsNumeric(.Value) Then
         MsgBox "Please enter a numeric value for the Non Mission Capable Aircraft."
         .SetFocus
         BoxCheck = 1
         Exit Sub
      End If
      TempNMC2 = NMCBox2
      If TempNMC2 < 0 Then
         MsgBox "Please enter a nonnegative value for the Non Mission Capable
Aircraft."
         .SetFocus
         BoxCheck = 1
         Exit Sub
      End If
      If TempNMC2 > TempAssigned2 Then
         MsgBox "The number of the Non Mission Capable Aircraft must be less than " &
_
            "the number of Assigned Aircraft." & vbCrLf & vbCrLf _
            & "Please reenter the number."
         BoxCheck = 1
         .SetFocus
         Exit Sub
      End If
   End With
   With OtherBox2
     If Not IsNumeric(.Value) Then
         MsgBox "Please enter a numeric value for the Aircraft Unavailable for Other
Reasons."
         .SetFocus
         BoxCheck = 1
         Exit Sub
      End If
      TempOther2 = OtherBox2
      If TempOther2 < 0 Then
         MsgBox "Please enter a nonnegative value for the Aircraft Unavailable for Other
Reasons."
         .SetFocus
         BoxCheck = 1
         Exit Sub
      End If
      If TempOther2 > TempAssigned2 Then
         MsgBox "The number of the Aircraft Unavailable for Other reasons must " & _
            "be less than the number of Assigned Aircraft." & vbCrLf & vbCrLf _
            & "Please reenter the number."
         BoxCheck = 1
         .SetFocus
```

```
            Exit Sub
        End If
    End With
    If TempNMC2 + TempOther2 > TempAssigned2 Then
        MsgBox "The number of Non Mission Capable Aircraft plus the Aircraft
Unavailable for Other " & _
            "Reasons must total less than the number of Assigned Aircraft." & vbCrLf &
vbCrLf _
            & "Please recheck and reenter these numbers."
        BoxCheck = 1
        Exit Sub
    End If
    With QEfficiencyBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Aircraft's Utilization."
            .SetFocus
             BoxCheck = 1
           Exit Sub
        End If
        TempTankUtilization2 = QEfficiencyBox2
        If TempTankUtilization2 < 0 Or TempTankUtilization2 > 1 Then
            MsgBox "Please enter a number between 0 and 1 for the Aircraft's Utilization."
            .SetFocus
             BoxCheck = 1
           Exit Sub
        End If
    End With

'tanker3

' Checks to ensure users inputs are numeric,  the utilization is between 0 and 1, _
' and that NMC and Other aircraft total does not exceed the available aircraft
' Assigns users inputs to temporary variables to calculate available aircraft required
    With OneAircraftSortieGenBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the daily sortie generation capabibility
of one aircraft."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        OneAircraftDailyGeneration3 = OneAircraftSortieGenBox3
        If OneAircraftDailyGeneration3 < 0 Then
            MsgBox "Please enter a nonnegative value for the daily sortie generation
capabibility of one aircraft."
            .SetFocus
```

```
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With AssignedBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Total Assigned Aircraft."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempAssigned3 = AssignedBox3
        If TempAssigned3 < 0 Then
            MsgBox "Please enter a nonnegative value for the Assigned Aircraft."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With NMCBox3
        If Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Non Mission Capable Aircraft."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempNMC3 = NMCBox3
        If TempNMC3 < 0 Then
            MsgBox "Please enter a nonnegative value for the Non Mission Capable
Aircraft."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        If TempNMC3 > TempAssigned3 Then
            MsgBox "The number of the Non Mission Capable Aircraft must be less than " &
_
                "the number of Assigned Aircraft." & vbCrLf & vbCrLf _
                & "Please reenter the number."
            BoxCheck = 1
            .SetFocus
            Exit Sub
        End If
    End With
    With OtherBox3
      If Not IsNumeric(.Value) Then
```

```
        MsgBox "Please enter a numeric value for the Aircraft Unavailable for Other
Reasons."
        .SetFocus
        BoxCheck = 1
        Exit Sub
      End If
      TempOther3 = OtherBox3
      If TempOther3 < 0 Then
        MsgBox "Please enter a nonnegative value for the Aircraft Unavailable for Other
Reasons."
        .SetFocus
        BoxCheck = 1
        Exit Sub
      End If
      If TempOther3 > TempAssigned3 Then
        MsgBox "The number of the Aircraft Unavailable for Other reasons must " & _
          "be less than the number of Assigned Aircraft." & vbCrLf & vbCrLf _
          & "Please reenter the number."
        BoxCheck = 1
        .SetFocus
        Exit Sub
      End If
    End With
    If TempNMC3 + TempOther3 > TempAssigned3 Then
      MsgBox "The number of Non Mission Capable Aircraft plus the Aircraft
Unavailable for Other " & _
        "Reasons must total less than the number of Assigned Aircraft." & vbCrLf &
vbCrLf _
        & "Please recheck and reenter these numbers."
      BoxCheck = 1
      Exit Sub
    End If
    With QEfficiencyBox3
      If .Value = "" Or Not IsNumeric(.Value) Then
        MsgBox "Please enter a numeric value for the Aircraft's Utilization."
        .SetFocus
         BoxCheck = 1
       Exit Sub
      End If
      TempTankUtilization3 = QEfficiencyBox3
      If TempTankUtilization3 < 0 Or TempTankUtilization3 > 1 Then
        MsgBox "Please enter a number between 0 and 1 for the Aircraft's Utilization."
        .SetFocus
         BoxCheck = 1
       Exit Sub
      End If
```

```
    End With
End Sub


Private Sub ReturnCmd_Click()
'Unload the form
    InputAircraftIntData.Hide
End Sub
```




```
Option Explicit
    Dim TempAssigned As Integer, TempNonAvail As Integer, TempTimeFrame As
Double, _
        TempAvail As Double, TempCrewUtilization As Double, _
        WeekMaxHrs As Double, MonthMaxHrs As Double, ThreeMonthMaxHrs As
Double, _
        TempWeek As Double, TempMonth As Double, TempThreeMonth As Double, _
```

```
        BoxCheck As Integer, HoursCheck As Integer, _
        TempAssigned2 As Integer, TempNonAvail2 As Integer, TempTimeFrame2 As
Double, _
        TempAvail2 As Double, TempCrewUtilization2 As Double, _
        WeekMaxHrs2 As Double, MonthMaxHrs2 As Double, ThreeMonthMaxHrs2 As
Double, _
        TempWeek2 As Double, TempMonth2 As Double, TempThreeMonth2 As Double,
_
        TempAssigned3 As Integer, TempNonAvail3 As Integer, TempTimeFrame3 As
Double, _
        TempAvail3 As Double, TempCrewUtilization3 As Double, _
        WeekMaxHrs3 As Double, MonthMaxHrs3 As Double, ThreeMonthMaxHrs3 As
Double, _
        TempWeek3 As Double, TempMonth3 As Double, TempThreeMonth3 As Double

Private Sub UserForm_Initialize()
' Hides hours boxes and units until a time frame is selected
    OneWeekHrsBox.Visible = False
    OneMonthHrsBox.Visible = False
    ThreeMonthHrsBox.Visible = False

    OneWeekHrsBox2.Visible = False
    OneMonthHrsBox2.Visible = False
    ThreeMonthHrsBox2.Visible = False

    OneWeekHrsBox3.Visible = False
    OneMonthHrsBox3.Visible = False
    ThreeMonthHrsBox3.Visible = False

End Sub

Private Sub ConsiderAllOption_Click()
' Unhides the appropriate box for user to enter max flying hours for all time frames
    OneWeekHrsBox.Visible = True

    OneMonthHrsBox.Visible = True

    ThreeMonthHrsBox.Visible = True

    OneWeekHrsBox2.Visible = True

    OneMonthHrsBox2.Visible = True

    ThreeMonthHrsBox2.Visible = True

    OneWeekHrsBox3.Visible = True
```

```
    OneMonthHrsBox3.Visible = True

    ThreeMonthHrsBox3.Visible = True



End Sub

Private Sub OneMonthOption_Click()
' Unhides the appropriate box for user to enter max flying hours for one month
    OneWeekHrsBox.Visible = False

    OneMonthHrsBox.Visible = True

    ThreeMonthHrsBox.Visible = False


    OneWeekHrsBox2.Visible = False

    OneMonthHrsBox2.Visible = True

    ThreeMonthHrsBox2.Visible = False

    OneWeekHrsBox3.Visible = False

    OneMonthHrsBox3.Visible = True

    ThreeMonthHrsBox3.Visible = False

End Sub

Private Sub OneWeekOption_Click()
' Unhides the appropriate box for user to enter max flying hours for one week
    OneWeekHrsBox.Visible = True

    OneMonthHrsBox.Visible = False

    ThreeMonthHrsBox.Visible = False

    OneWeekHrsBox2.Visible = True

    OneMonthHrsBox2.Visible = False

    ThreeMonthHrsBox2.Visible = False
```

```
    OneWeekHrsBox3.Visible = True

    OneMonthHrsBox3.Visible = False

    ThreeMonthHrsBox3.Visible = False


End Sub

Private Sub ThreeMonthOption_Click()
' Unhides the appropriate box for user to enter max flying hours for three months
    OneWeekHrsBox.Visible = False

    OneMonthHrsBox.Visible = False

    ThreeMonthHrsBox.Visible = True

    OneWeekHrsBox2.Visible = False

    OneMonthHrsBox2.Visible = False

    ThreeMonthHrsBox2.Visible = True

    OneWeekHrsBox3.Visible = False

    OneMonthHrsBox3.Visible = False

    ThreeMonthHrsBox3.Visible = True




End Sub

Private Sub CmdCalcAircrewInt_Click()
' Initializes NonAvailBox to allow users to assume all crews are avaialable
    BoxCheck = 0
' Calls subroutine to check if inputs are valid
    Call CheckInputs
    If BoxCheck = 1 Then
        Exit Sub
    End If
' Calculate Available Aircrew
    TempAvail = (TempAssigned - TempNonAvail) * TempCrewUtilization
    TempAvail2 = (TempAssigned2 - TempNonAvail2) * TempCrewUtilization2
```

```
    TempAvail3 = (TempAssigned3 - TempNonAvail3) * TempCrewUtilization3
' Calculate Aircrew Interval
    AircrewInt = TempAvail * TempTimeFrame / RTFT
     If AircrewInt < 0 Then
        AircrewInt = 0
    End If
   TempAircrewSortieGenBox = AircrewInt

   AircrewInt2 = TempAvail2 * TempTimeFrame2 / RTFT2
     If AircrewInt2 < 0 Then
        AircrewInt2 = 0
    End If
   TempAircrewSortieGenBox2 = AircrewInt2

   AircrewInt3 = TempAvail3 * TempTimeFrame3 / RTFT3
     If AircrewInt3 < 0 Then
        AircrewInt3 = 0
    End If
   TempAircrewSortieGenBox3 = AircrewInt3
End Sub

Private Sub CmdCancel_Click()
'Closes the form without saving any data
    Unload Me
End Sub

Private Sub CmdInstructions_Click()
    InstructionsAircrewInt.Show
End Sub

Private Sub ReturnCmd_Click()
' Returns used to the main form, saving data by hiding the form
    InputAircrewIntData.Hide
End Sub

Sub CheckInputs()
'Assigns users inputs to temporary variables to calculate available aircrew required
    With AssignedBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Total Assigned Aircrew."
            BoxCheck = 1
            .SetFocus
            Exit Sub
        End If
        TempAssigned = AssignedBox
        If TempAssigned < 0 Then
```

```
            MsgBox "Please enter a nonnegative value for the Assigned Aircrew."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With NonAvailBox
        If Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Unavailable Crews."
            BoxCheck = 1
            .SetFocus
            Exit Sub
        End If
        TempNonAvail = NonAvailBox
        If TempNonAvail < 0 Or TempNonAvail > TempAssigned Then
            MsgBox "Please enter a nonnegative value between 0 and " & TempAssigned & "
for Unvailable Crews."
            BoxCheck = 1
            .SetFocus
            Exit Sub
        End If
    End With
    With CrewUtilizationBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Aircrew's Utilization."
            BoxCheck = 1
            .SetFocus
            Exit Sub
        End If
        TempCrewUtilization = CrewUtilizationBox
        If TempCrewUtilization < 0 Or TempCrewUtilization > 1 Then
            BoxCheck = 1
            MsgBox "Please enter a number between 0 and 1 for the Aircrew's Utilization."
            .SetFocus
            Exit Sub
        End If
    End With
' Assings a number to the hourscheck variable to let CheckFlyingHoursInput proceedure
know which box to check
' Calls proceedure to check box and uses BoxCheck variable to determine if inputs are
acceptable
    If OneWeekOption = True Then
        HoursCheck = 1
        CheckFlyingHoursInput
        If BoxCheck = 1 Then
            Exit Sub
```

```
        End If
        TempTimeFrame = WeekMaxHrs / 7
    ElseIf OneMonthOption = True Then
        HoursCheck = 2
        CheckFlyingHoursInput
        If BoxCheck = 1 Then
            Exit Sub
        End If
        TempTimeFrame = MonthMaxHrs / 30
    ElseIf ThreeMonthOption = True Then
        HoursCheck = 3
        CheckFlyingHoursInput
        If BoxCheck = 1 Then
            Exit Sub
        End If
        TempTimeFrame = ThreeMonthMaxHrs / 90
    ElseIf ConsiderAllOption = True Then
' Determines the most confining variable from max flying hours per time frames
        HoursCheck = 4
        CheckFlyingHoursInput
        If BoxCheck = 1 Then
            Exit Sub
        End If
        TempWeek = WeekMaxHrs / 7
        TempMonth = MonthMaxHrs / 30
        TempThreeMonth = ThreeMonthMaxHrs / 90
        If TempWeek < TempMonth And TempWeek < TempThreeMonth Then
            TempTimeFrame = TempWeek
        ElseIf TempMonth < TempWeek And TempMonth < TempThreeMonth Then
            TempTimeFrame = TempMonth
        Else
            TempTimeFrame = TempThreeMonth
        End If
    Else
        MsgBox "At least one time frame must be selected."
            BoxCheck = 1
        Exit Sub
    End If



'tanker2

'Assigns users inputs to temporary variables to calculate available aircrew required
    With AssignedBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
```

```
            MsgBox "Please enter a numeric value for the Total Assigned Aircrew."
            BoxCheck = 1
            .SetFocus
            Exit Sub
        End If
        TempAssigned2 = AssignedBox2
        If TempAssigned2 < 0 Then
            MsgBox "Please enter a nonnegative value for the Assigned Aircrew."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With NonAvailBox2
        If Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Unavailable Crews."
            BoxCheck = 1
            .SetFocus
            Exit Sub
        End If
        TempNonAvail2 = NonAvailBox2
        If TempNonAvail2 < 0 Or TempNonAvail2 > TempAssigned2 Then
            MsgBox "Please enter a nonnegative value between 0 and " & TempAssigned & "
for Unvailable Crews."
            BoxCheck = 1
            .SetFocus
            Exit Sub
        End If
    End With
    With CrewUtilizationBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Aircrew's Utilization."
            BoxCheck = 1
            .SetFocus
            Exit Sub
        End If
        TempCrewUtilization2 = CrewUtilizationBox2
        If TempCrewUtilization2 < 0 Or TempCrewUtilization2 > 1 Then
            BoxCheck = 1
            MsgBox "Please enter a number between 0 and 1 for the Aircrew's Utilization."
            .SetFocus
            Exit Sub
        End If
    End With
' Assings a number to the hourscheck variable to let CheckFlyingHoursInput proceedure
know which box to check
```

```
' Calls proceedure to check box and uses BoxCheck variable to determine if inputs are
acceptable
    If OneWeekOption = True Then
        HoursCheck = 1
        CheckFlyingHoursInput
        If BoxCheck = 1 Then
            Exit Sub
        End If
        TempTimeFrame2 = WeekMaxHrs2 / 7
    ElseIf OneMonthOption = True Then
        HoursCheck = 2
        CheckFlyingHoursInput
        If BoxCheck = 1 Then
            Exit Sub
        End If
        TempTimeFrame2 = MonthMaxHrs2 / 30
    ElseIf ThreeMonthOption = True Then
        HoursCheck = 3
        CheckFlyingHoursInput
        If BoxCheck = 1 Then
            Exit Sub
        End If
        TempTimeFrame2 = ThreeMonthMaxHrs2 / 90
    ElseIf ConsiderAllOption = True Then
' Determines the most confining variable from max flying hours per time frames
        HoursCheck = 4
        CheckFlyingHoursInput
        If BoxCheck = 1 Then
            Exit Sub
        End If
        TempWeek2 = WeekMaxHrs2 / 7
        TempMonth2 = MonthMaxHrs2 / 30
        TempThreeMonth2 = ThreeMonthMaxHrs2 / 90
        If TempWeek2 < TempMonth2 And TempWeek2 < TempThreeMonth2 Then
            TempTimeFrame2 = TempWeek2
        ElseIf TempMonth2 < TempWeek2 And TempMonth2 < TempThreeMonth2 Then
            TempTimeFrame2 = TempMonth2
        Else
            TempTimeFrame2 = TempThreeMonth2
        End If
    Else
        MsgBox "At least one time frame must be selected."
            BoxCheck = 1
        Exit Sub
    End If
```

```
'tanker3

'Assigns users inputs to temporary variables to calculate available aircrew required
    With AssignedBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Total Assigned Aircrew."
            BoxCheck = 1
            .SetFocus
            Exit Sub
        End If
        TempAssigned3 = AssignedBox3
        If TempAssigned3 < 0 Then
            MsgBox "Please enter a nonnegative value for the Assigned Aircrew."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With NonAvailBox3
        If Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Unavailable Crews."
            BoxCheck = 1
            .SetFocus
            Exit Sub
        End If
        TempNonAvail3 = NonAvailBox3
        If TempNonAvail3 < 0 Or TempNonAvail3 > TempAssigned3 Then
            MsgBox "Please enter a nonnegative value between 0 and " & TempAssigned & "
for Unvailable Crews."
            BoxCheck = 1
            .SetFocus
            Exit Sub
        End If
    End With
    With CrewUtilizationBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the Aircrew's Utilization."
            BoxCheck = 1
            .SetFocus
            Exit Sub
        End If
        TempCrewUtilization3 = CrewUtilizationBox3
        If TempCrewUtilization3 < 0 Or TempCrewUtilization3 > 1 Then
            BoxCheck = 1
            MsgBox "Please enter a number between 0 and 1 for the Aircrew's Utilization."
```

```
            .SetFocus
            Exit Sub
        End If
    End With
' Assings a number to the hourscheck variable to let CheckFlyingHoursInput proceedure
know which box to check
' Calls proceedure to check box and uses BoxCheck variable to determine if inputs are
acceptable
    If OneWeekOption = True Then
        HoursCheck = 1
        CheckFlyingHoursInput
        If BoxCheck = 1 Then
            Exit Sub
        End If
        TempTimeFrame3 = WeekMaxHrs3 / 7
    ElseIf OneMonthOption = True Then
        HoursCheck = 2
        CheckFlyingHoursInput
        If BoxCheck = 1 Then
            Exit Sub
        End If
        TempTimeFrame3 = MonthMaxHrs3 / 30
    ElseIf ThreeMonthOption = True Then
        HoursCheck = 3
        CheckFlyingHoursInput
        If BoxCheck = 1 Then
            Exit Sub
        End If
        TempTimeFrame3 = ThreeMonthMaxHrs3 / 90
    ElseIf ConsiderAllOption = True Then
' Determines the most confining variable from max flying hours per time frames
        HoursCheck = 4
        CheckFlyingHoursInput
        If BoxCheck = 1 Then
            Exit Sub
        End If
        TempWeek3 = WeekMaxHrs3 / 7
        TempMonth3 = MonthMaxHrs3 / 30
        TempThreeMonth3 = ThreeMonthMaxHrs3 / 90
        If TempWeek3 < TempMonth3 And TempWeek3 < TempThreeMonth3 Then
            TempTimeFrame3 = TempWeek3
        ElseIf TempMonth3 < TempWeek3 And TempMonth3 < TempThreeMonth3 Then
            TempTimeFrame3 = TempMonth3
        Else
            TempTimeFrame3 = TempThreeMonth3
        End If
```

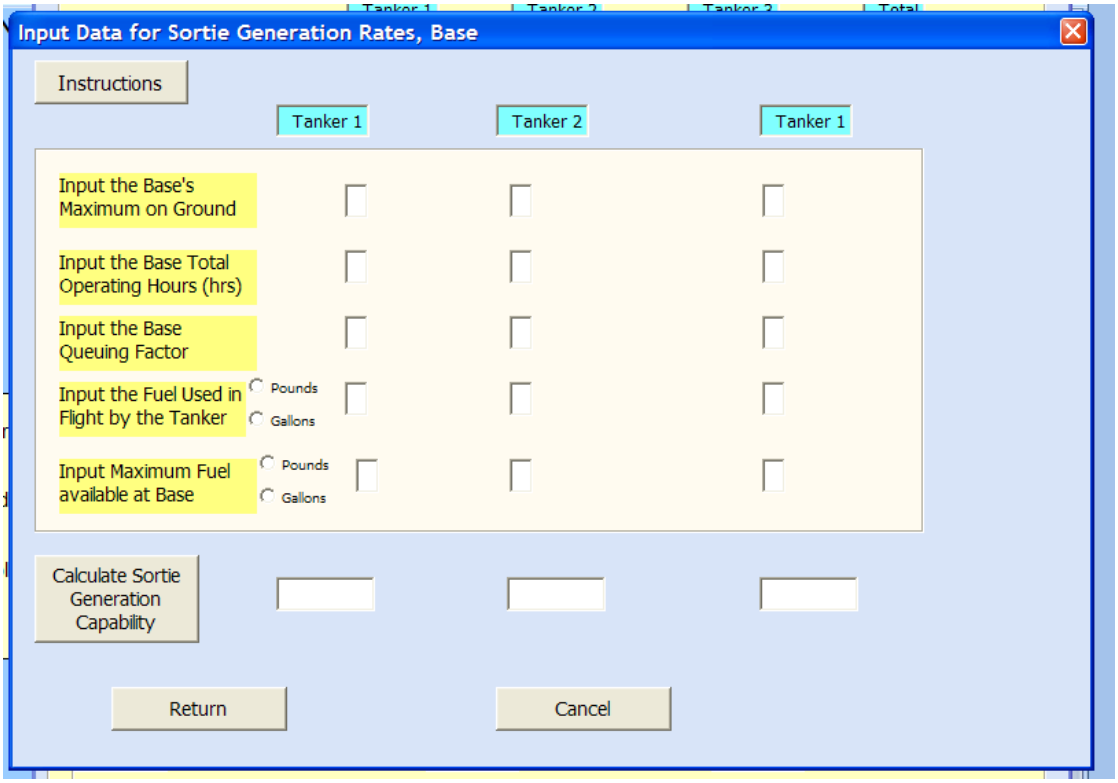
```
   Else
      MsgBox "At least one time frame must be selected."
         BoxCheck = 1
      Exit Sub
   End If

End Sub

Sub CheckFlyingHoursInput()
'Assigns users inputs for max flying hours to temporary variables to calculate
TempTimeFrame
' Exits proceedure if entry to box does not meet appropriate criteria
   If HoursCheck = 1 Or HoursCheck = 4 Then
      With OneWeekHrsBox
         If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the maximum number of hours a
crew can fly in one week."
            BoxCheck = 1
            .SetFocus
            Exit Sub
         End If
        WeekMaxHrs = OneWeekHrsBox
         If WeekMaxHrs < 0 Or WeekMaxHrs > 168 Then
            BoxCheck = 1
            MsgBox "Please enter a number between 0 and 168 for the maximum number
of hours a crew can fly in one week."
            Exit Sub
         End If
      End With
   End If
   If HoursCheck = 2 Or HoursCheck = 4 Then
      With OneMonthHrsBox
         If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the maximum number of hours a
crew can fly in one month."
            BoxCheck = 1
            .SetFocus
            Exit Sub
         End If
         MonthMaxHrs = OneMonthHrsBox
         If MonthMaxHrs < 0 Or MonthMaxHrs > 720 Then
            BoxCheck = 1
            MsgBox "Please enter a number between 0 and 720 for the maximum number
of hours a crew can fly in one month."
            Exit Sub
         End If
```

```
        End With
    End If
    If HoursCheck = 3 Or HoursCheck = 4 Then
      With ThreeMonthHrsBox
          If .Value = "" Or Not IsNumeric(.Value) Then
              MsgBox "Please enter a numeric value for the maximum number of hours a
crew can fly in three months."
              BoxCheck = 1
              .SetFocus
              Exit Sub
          End If
          ThreeMonthMaxHrs = ThreeMonthHrsBox
          If ThreeMonthMaxHrs < 0 Or ThreeMonthMaxHrs > 2160 Then
              BoxCheck = 1
              MsgBox "Please enter a number between 0 and 2160 for the maximum number
of hours a crew can fly in three months."
              Exit Sub
          End If
        End With
    End If


'tanker2


'Assigns users inputs for max flying hours to temporary variables to calculate
TempTimeFrame
' Exits proceedure if entry to box does not meet appropriate criteria
    If HoursCheck = 1 Or HoursCheck = 4 Then
        With OneWeekHrsBox2
          If .Value = "" Or Not IsNumeric(.Value) Then
              MsgBox "Please enter a numeric value for the maximum number of hours a
crew can fly in one week."
              BoxCheck = 1
              .SetFocus
              Exit Sub
          End If
         WeekMaxHrs2 = OneWeekHrsBox2
          If WeekMaxHrs < 0 Or WeekMaxHrs > 168 Then
              BoxCheck = 1
              MsgBox "Please enter a number between 0 and 168 for the maximum number
of hours a crew can fly in one week."
              Exit Sub
          End If
        End With
    End If
```

```
   If HoursCheck = 2 Or HoursCheck = 4 Then
      With OneMonthHrsBox2
         If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the maximum number of hours a
crew can fly in one month."
            BoxCheck = 1
            .SetFocus
            Exit Sub
         End If
         MonthMaxHrs2 = OneMonthHrsBox2
         If MonthMaxHrs2 < 0 Or MonthMaxHrs2 > 720 Then
            BoxCheck = 1
            MsgBox "Please enter a number between 0 and 720 for the maximum number
of hours a crew can fly in one month."
            Exit Sub
         End If
      End With
   End If
   If HoursCheck = 3 Or HoursCheck = 4 Then
     With ThreeMonthHrsBox2
         If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the maximum number of hours a
crew can fly in three months."
            BoxCheck = 1
            .SetFocus
            Exit Sub
         End If
         ThreeMonthMaxHrs2 = ThreeMonthHrsBox2
         If ThreeMonthMaxHrs2 < 0 Or ThreeMonthMaxHrs2 > 2160 Then
            BoxCheck = 1
            MsgBox "Please enter a number between 0 and 2160 for the maximum number
of hours a crew can fly in three months."
            Exit Sub
         End If
      End With
   End If
'tanker3


'Assigns users inputs for max flying hours to temporary variables to calculate
TempTimeFrame
' Exits proceedure if entry to box does not meet appropriate criteria
   If HoursCheck = 1 Or HoursCheck = 4 Then
      With OneWeekHrsBox3
         If .Value = "" Or Not IsNumeric(.Value) Then
```

```
            MsgBox "Please enter a numeric value for the maximum number of hours a
crew can fly in one week."
            BoxCheck = 1
            .SetFocus
            Exit Sub
          End If
         WeekMaxHrs3 = OneWeekHrsBox3
          If WeekMaxHrs < 0 Or WeekMaxHrs > 168 Then
            BoxCheck = 1
            MsgBox "Please enter a number between 0 and 168 for the maximum number
of hours a crew can fly in one week."
            Exit Sub
          End If
       End With
   End If
   If HoursCheck = 2 Or HoursCheck = 4 Then
      With OneMonthHrsBox3
         If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the maximum number of hours a
crew can fly in one month."
            BoxCheck = 1
            .SetFocus
            Exit Sub
         End If
         MonthMaxHrs3 = OneMonthHrsBox3
         If MonthMaxHrs3 < 0 Or MonthMaxHrs3 > 720 Then
            BoxCheck = 1
            MsgBox "Please enter a number between 0 and 720 for the maximum number
of hours a crew can fly in one month."
            Exit Sub
         End If
      End With
   End If
   If HoursCheck = 3 Or HoursCheck = 4 Then
     With ThreeMonthHrsBox3
         If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the maximum number of hours a
crew can fly in three months."
            BoxCheck = 1
            .SetFocus
            Exit Sub
         End If
         ThreeMonthMaxHrs3 = ThreeMonthHrsBox3
         If ThreeMonthMaxHrs3 < 0 Or ThreeMonthMaxHrs3 > 2160 Then
            BoxCheck = 1
```

```
            MsgBox "Please enter a number between 0 and 2160 for the maximum number
of hours a crew can fly in three months."
            Exit Sub
          End If
        End With
    End If
End Sub
```




```
Option Explicit
    Dim TempMOG As Double, TempOpHours As Double, TempQFactor As Double, _
        TempBaseFuel As Double, BoxCheck As Integer, _
        MOGCapability As Double, FuelCapability As Double, _
        TempMOG2 As Double, TempOpHours2 As Double, TempQFactor2 As Double, _
        TempBaseFuel2 As Double, _
        MOGCapability2 As Double, FuelCapability2 As Double, _
        TempMOG3 As Double, TempOpHours3 As Double, TempQFactor3 As Double, _
        TempBaseFuel3 As Double, _
        MOGCapability3 As Double, FuelCapability3 As Double

Private Sub TextBox6_Change()

End Sub
```

```
Private Sub UserForm_Initialize()
' Checks to see if tanker fuel was inputted before during available fuel calculations
' If it was, value is inputted into the box
   If Not TankerFuelUsed = 0 Then
      TankerFuelUsedBox.Value = TankerFuelUsed
      TankerPoundsOption = True
   End If
   If Not TankerFuelUsed2 = 0 Then
      TankerFuelUsedBox2.Value = TankerFuelUsed2
      TankerPoundsOption = True
   End If
   If Not TankerFuelUsed3 = 0 Then
      TankerFuelUsedBox3.Value = TankerFuelUsed3
      TankerPoundsOption = True
   End If
End Sub
Private Sub CmdCalcStationInt_Click()
   BoxCheck = 0
' Calls subroutine to check if inputs are valid
   Call CheckInputs
   If BoxCheck = 1 Then
      Exit Sub
   End If
'Calculate Sortie Generation based on base's data considering MOG and time and fuel
capacity
   MOGCapability = TempMOG * TempOpHours / TotalGroundTime * TempQFactor
   FuelCapability = TempBaseFuel / (TankerFuelUsed + OffloadReq)

   MOGCapability2 = TempMOG2 * TempOpHours2 / TotalGroundTime2 *
TempQFactor2
   FuelCapability2 = TempBaseFuel2 / (TankerFuelUsed2 + OffloadReq)

   MOGCapability3 = TempMOG3 * TempOpHours3 / TotalGroundTime3 *
TempQFactor3
   FuelCapability3 = TempBaseFuel3 / (TankerFuelUsed3 + OffloadReq)

   MsgBox "The maximum sortie generation based on MOG is " & MOGCapability &
vbCrLf & _
      "The maximum sortie generation based on fuel is &" & FuelCapability
   If MOGCapability < FuelCapability Then
      BaseInt = MOGCapability
   Else
      BaseInt = FuelCapability
   End If
   If BaseInt < 0 Then
      BaseInt = 0
```

```
    End If
    TempBaseIntBox = BaseInt

    If MOGCapability2 < FuelCapability2 Then
        BaseInt2 = MOGCapability2
    Else
        BaseInt2 = FuelCapability2
    End If
    If BaseInt2 < 0 Then
        BaseInt2 = 0
    End If
    TempBaseIntBox2 = BaseInt2

    If MOGCapability3 < FuelCapability3 Then
        BaseInt3 = MOGCapability3
    Else
        BaseInt3 = FuelCapability3
    End If
    If BaseInt3 < 0 Then
        BaseInt3 = 0
    End If
    TempBaseIntBox3 = BaseInt3
End Sub

Private Sub CmdCancel_Click()
' Closes the form without saving any data
    Unload Me
End Sub

Private Sub InstructionsCmd_Click()
    InstructionsBaseInt.Show
End Sub

Private Sub ReturnCmd_Click()
    InputBaseIntData.Hide
End Sub

Sub CheckInputs()
'Assigns users inputs to temporary variables to calculate Station Interval
    With MOGBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the base's Maximum Aircraft on
Ground."
            .SetFocus
            BoxCheck = 1
            Exit Sub
```

```
        End If
        TempMOG = MOGBox
        If TempMOG < 0 Then
            MsgBox "Please enter a nonnegative value for the base's Maximum Aircraft on
Ground."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With OpHoursBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the base's Operating Hours."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempOpHours = OpHoursBox
        If TempOpHours < 0 Or TempOpHours > 24 Then
            MsgBox "Please enter a number between 0 and 24 Hours for the base's Operating
Hours."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With BaseFuelBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the fuel available from the base."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempBaseFuel = BaseFuelBox
        If TempBaseFuel < 0 Then
            MsgBox "Please enter a non negative value for the fuel available from the base."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    If PoundsOption = False And GallonsOption = False Then
        MsgBox "Please indicate if base fuel is in pounds or gallons."
        Exit Sub
    ElseIf GallonsOption = True Then
        TempBaseFuel = TempBaseFuel * 6.79
```

```
    End If
    With QFactorBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the base's Queuing Efficiency."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempQFactor = QFactorBox
        If TempQFactor < 0 Or TempQFactor > 1 Then
            MsgBox "Please enter a number between 0 and 1 for the base's Queuing Factor."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With TankerFuelUsedBox
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the fuel used by the Tanker."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TankerFuelUsed = TankerFuelUsedBox
        If TankerFuelUsed < 0 Then
            MsgBox "Please enter a non negative value for the fuel used by the Tanker."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    If TankerPoundsOption = False And TankerGallonsOption = False Then
        MsgBox "Please indicate if tanker fuel is in pounds or gallons."
        Exit Sub
    ElseIf TankerGallonsOption = True Then
        TankerFuelUsed = TankerFuelUsed * 6.799
    End If

'tanker2

'Assigns users inputs to temporary variables to calculate Station Interval
    With MOGBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the base's Maximum Aircraft on
Ground."
            .SetFocus
```

```
            BoxCheck = 1
            Exit Sub
        End If
        TempMOG2 = MOGBox2
        If TempMOG2 < 0 Then
            MsgBox "Please enter a nonnegative value for the base's Maximum Aircraft on
Ground."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With OpHoursBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the base's Operating Hours."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempOpHours2 = OpHoursBox2
        If TempOpHours2 < 0 Or TempOpHours2 > 24 Then
            MsgBox "Please enter a number between 0 and 24 Hours for the base's Operating
Hours."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With BaseFuelBox2
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the fuel available from the base."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempBaseFuel2 = BaseFuelBox2
        If TempBaseFuel2 < 0 Then
            MsgBox "Please enter a non negative value for the fuel available from the base."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    If PoundsOption = False And GallonsOption = False Then
        MsgBox "Please indicate if base fuel is in pounds or gallons."
        Exit Sub
```

```
    ElseIf GallonsOption = True Then
       TempBaseFuel2 = TempBaseFuel2 * 6.79
    End If
    With QFactorBox2
       If .Value = "" Or Not IsNumeric(.Value) Then
          MsgBox "Please enter a numeric value for the base's Queuing Efficiency."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
       TempQFactor2 = QFactorBox2
       If TempQFactor2 < 0 Or TempQFactor2 > 1 Then
          MsgBox "Please enter a number between 0 and 1 for the base's Queuing Factor."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
    End With
    With TankerFuelUsedBox2
       If .Value = "" Or Not IsNumeric(.Value) Then
          MsgBox "Please enter a numeric value for the fuel used by the Tanker."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
       TankerFuelUsed2 = TankerFuelUsedBox2
       If TankerFuelUsed2 < 0 Then
          MsgBox "Please enter a non negative value for the fuel used by the Tanker."
          .SetFocus
          BoxCheck = 1
          Exit Sub
       End If
    End With
    If TankerPoundsOption = False And TankerGallonsOption = False Then
       MsgBox "Please indicate if tanker fuel is in pounds or gallons."
       Exit Sub
    ElseIf TankerGallonsOption = True Then
       TankerFuelUsed2 = TankerFuelUsed2 * 6.799
    End If

'tanker3

'Assigns users inputs to temporary variables to calculate Station Interval
    With MOGBox3
       If .Value = "" Or Not IsNumeric(.Value) Then
```

```
            MsgBox "Please enter a numeric value for the base's Maximum Aircraft on
Ground."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempMOG3 = MOGBox3
        If TempMOG3 < 0 Then
            MsgBox "Please enter a nonnegative value for the base's Maximum Aircraft on
Ground."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With OpHoursBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the base's Operating Hours."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempOpHours3 = OpHoursBox3
        If TempOpHours3 < 0 Or TempOpHours3 > 24 Then
            MsgBox "Please enter a number between 0 and 24 Hours for the base's Operating
Hours."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With BaseFuelBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the fuel available from the base."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempBaseFuel3 = BaseFuelBox3
        If TempBaseFuel3 < 0 Then
            MsgBox "Please enter a non negative value for the fuel available from the base."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
```

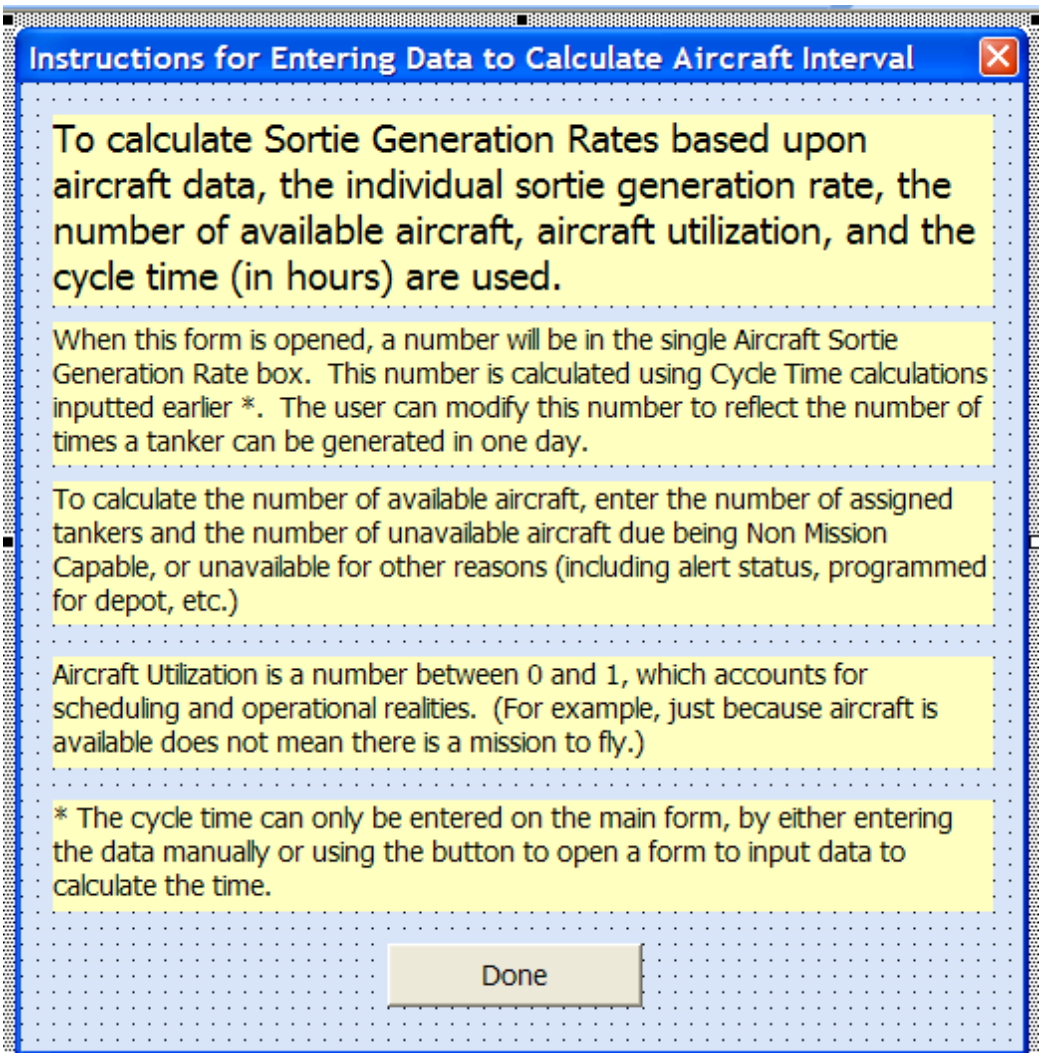
```
    If PoundsOption = False And GallonsOption = False Then
        MsgBox "Please indicate if base fuel is in pounds or gallons."
        Exit Sub
    ElseIf GallonsOption = True Then
        TempBaseFuel3 = TempBaseFuel3 * 6.79
    End If
    With QFactorBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the base's Queuing Efficiency."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TempQFactor3 = QFactorBox3
        If TempQFactor3 < 0 Or TempQFactor3 > 1 Then
            MsgBox "Please enter a number between 0 and 1 for the base's Queuing Factor."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    With TankerFuelUsedBox3
        If .Value = "" Or Not IsNumeric(.Value) Then
            MsgBox "Please enter a numeric value for the fuel used by the Tanker."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
        TankerFuelUsed3 = TankerFuelUsedBox3
        If TankerFuelUsed3 < 0 Then
            MsgBox "Please enter a non negative value for the fuel used by the Tanker."
            .SetFocus
            BoxCheck = 1
            Exit Sub
        End If
    End With
    If TankerPoundsOption = False And TankerGallonsOption = False Then
        MsgBox "Please indicate if tanker fuel is in pounds or gallons."
        Exit Sub
    ElseIf TankerGallonsOption = True Then
        TankerFuelUsed3 = TankerFuelUsed3 * 6.799
    End If
End Sub
```

Below is the code of the Module in VBA

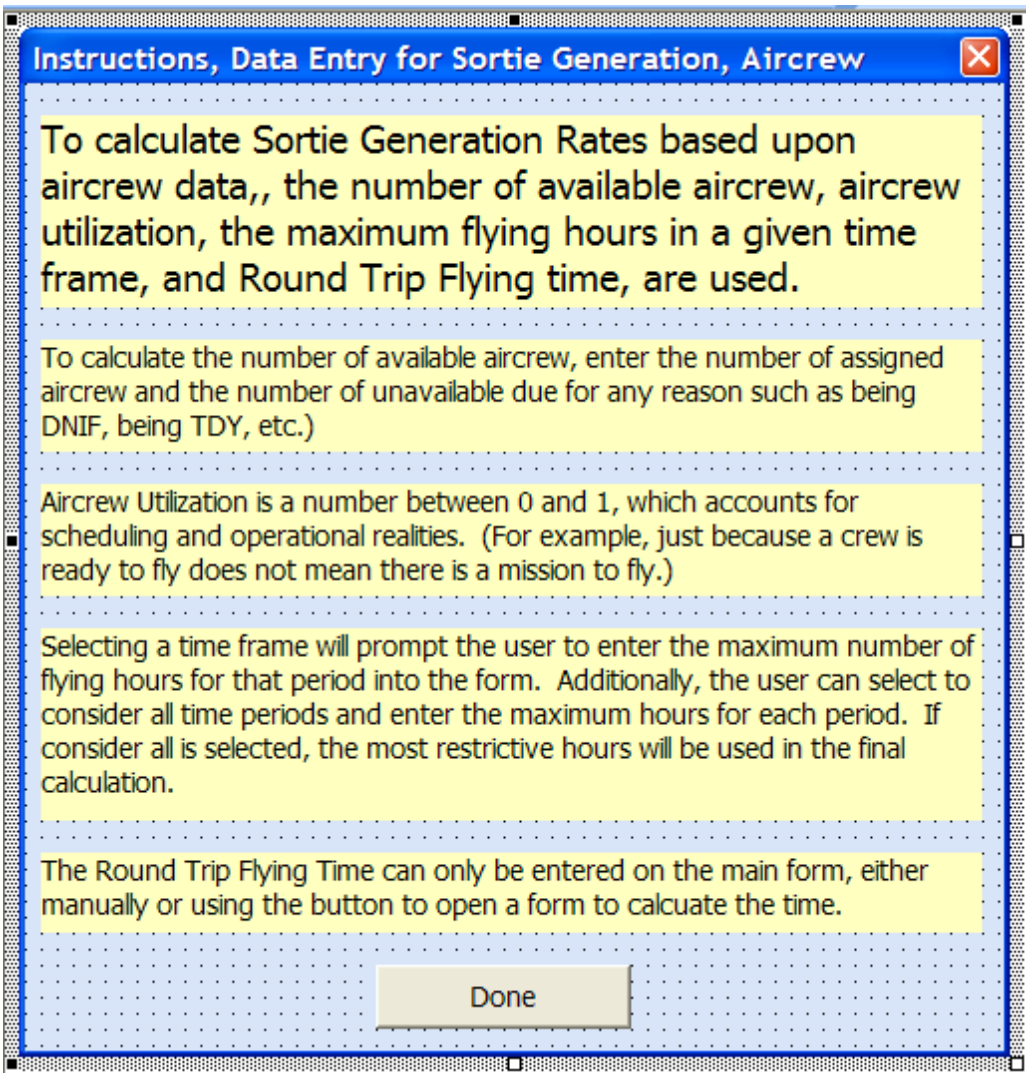
```
Option Explicit
```

```
   Public OffloadReq As Long, OffloadAvail As Long, MissionReq As Long, RTFT As
Double, _
      CycleTime As Double, AircraftInt As Double, AircrewInt As Double, _
      TotalGroundTime As Double, BaseInt As Double, MaxFuelAvail As Long, _
      CurrentFuel As Long, TankerFuelUsed As Double, CurrentTime As Variant, _
      ReturnToForm As Integer, TrackRTFTEnter As Integer, OffloadAvail2 As Long,
BoomMissionReq As Integer, _
      maxboommissionbox As Integer, mintankersMissionReq As Integer, RTFT2 As
Double, RTFT3 As Double, _
      CycleTime2 As Double, AircraftInt2 As Double, AircrewInt2 As Double, _
      TotalGroundTime2 As Double, BaseInt2 As Double, MaxFuelAvail2 As Long, _
      CycleTime3 As Double, AircraftInt3 As Double, AircrewInt3 As Double, _
      TotalGroundTime3 As Double, BaseInt3 As Double, MaxFuelAvail3 As Long, _
      TankerFuelUsed2 As Double, TankerFuelUsed3 As Double, OffloadAvail3 As Long



Sub Instructions()
' Opens the first page of instructions, which gives a broad overview of the program
' Allows the user to advance to more detailed instructions or return to the starting sheet
   InstructionsPg1.Show
End Sub

Sub ToMainForm()
' Calls the form which the user will enter and calculate all data
   TankerFuelUsed = 0
   MainInput.Show
End Sub

Sub EnterDataManually()

' Place holder for routine to check if user wants to enter data manually
' Instead of asking in each routine

End Sub

Sub ReturnToMainForm()
' Places the main sheet in the background again and returns to the main form
   ThisWorkbook.Worksheets("Tanker Employment").Activate
' Using ReturnToForm, selects which form to return the user to
   Select Case ReturnToForm
      Case 1
         InputFuelReqData.Show
         MainInput.Show
      Case 2
```

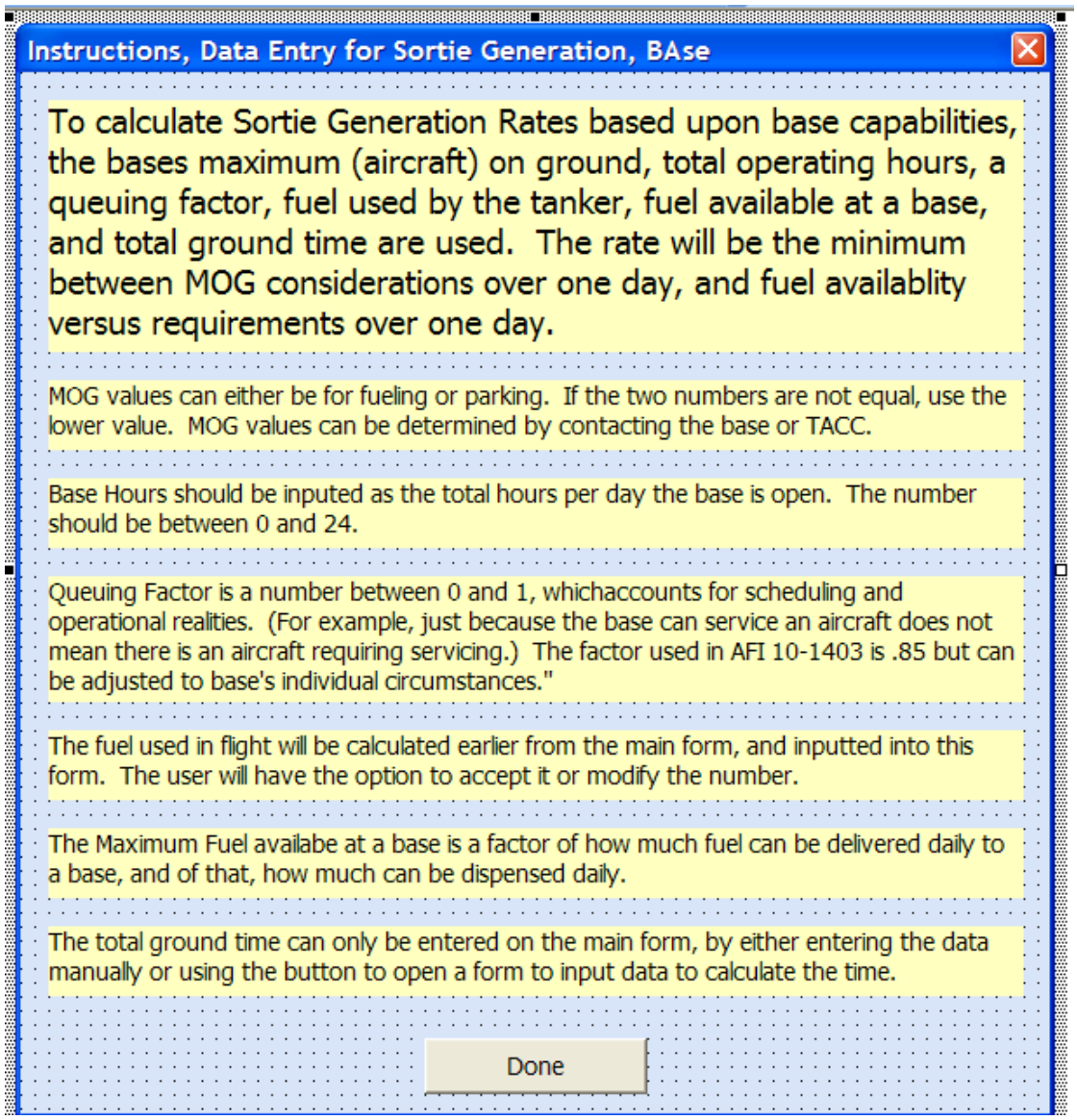
```
            InputFuelAvailData.Show
            MainInput.Show
        Case 3
            MainInput.Show
        Case 4
            InstructionsRTFT.Show
            InputFirstRTFTData.Show
            MainInput.Show
        Case Else
            ThisWorkbook.Worksheets("Tanker Employment").Activate
    End Select
End Sub

Sub PrintChart()
' Will allow the user to print the chart
    MsgBox "Place holder to allow user to print chart"

End Sub

Sub ToBeginningSheet()
' Calls the form which the user will enter and calculate all data
    ThisWorkbook.Worksheets("Tanker Employment").Activate
End Sub

Function RoundNear(varNumber As Variant, varDelta As Variant) As Variant

' by Dejan Mladenovic, <<http://advisor.com/doc/08884>> accessed 31 Jan 05
' Rounds varnumber to the nearest multiple of varDelta

  Dim varDec As Variant
  Dim intX As Integer
  Dim varX As Variant

  varX = varNumber / varDelta
  intX = Int(varX)
  varDec = CDec(varX) - intX

  If varDec >= 0.5 Then
    RoundNear = varDelta * (intX + 1)
  Else
    RoundNear = varDelta * intX
  End If
End Function
```



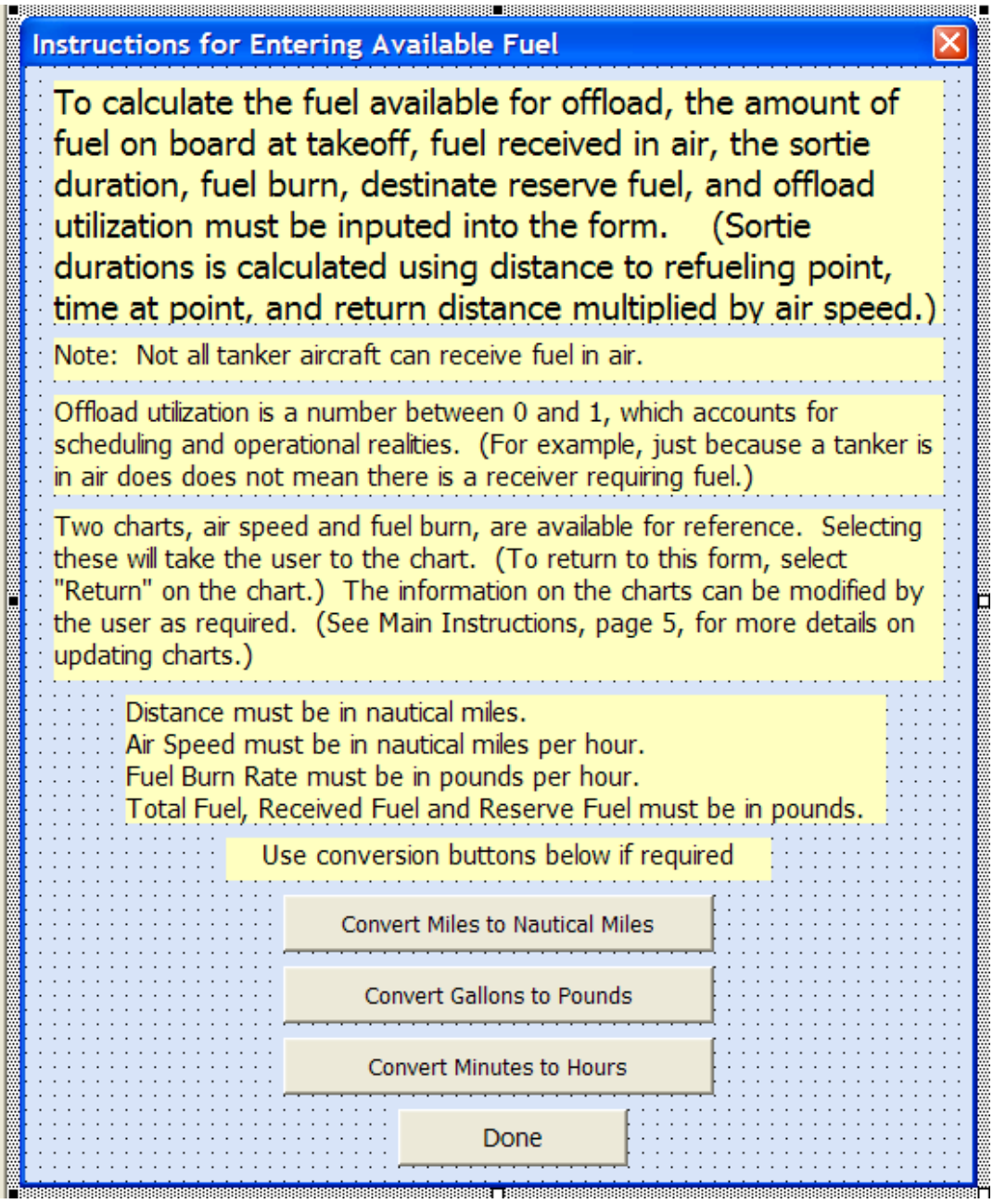

```
Option Explicit

Private Sub CmdCancel_Click()
    Unload Me
End Sub


Private Sub UserForm_Click()

End Sub
```




```
Option Explicit

Private Sub CmdCancel_Click()
    Unload Me
End Sub

Private Sub UserForm_Click()

End Sub
```

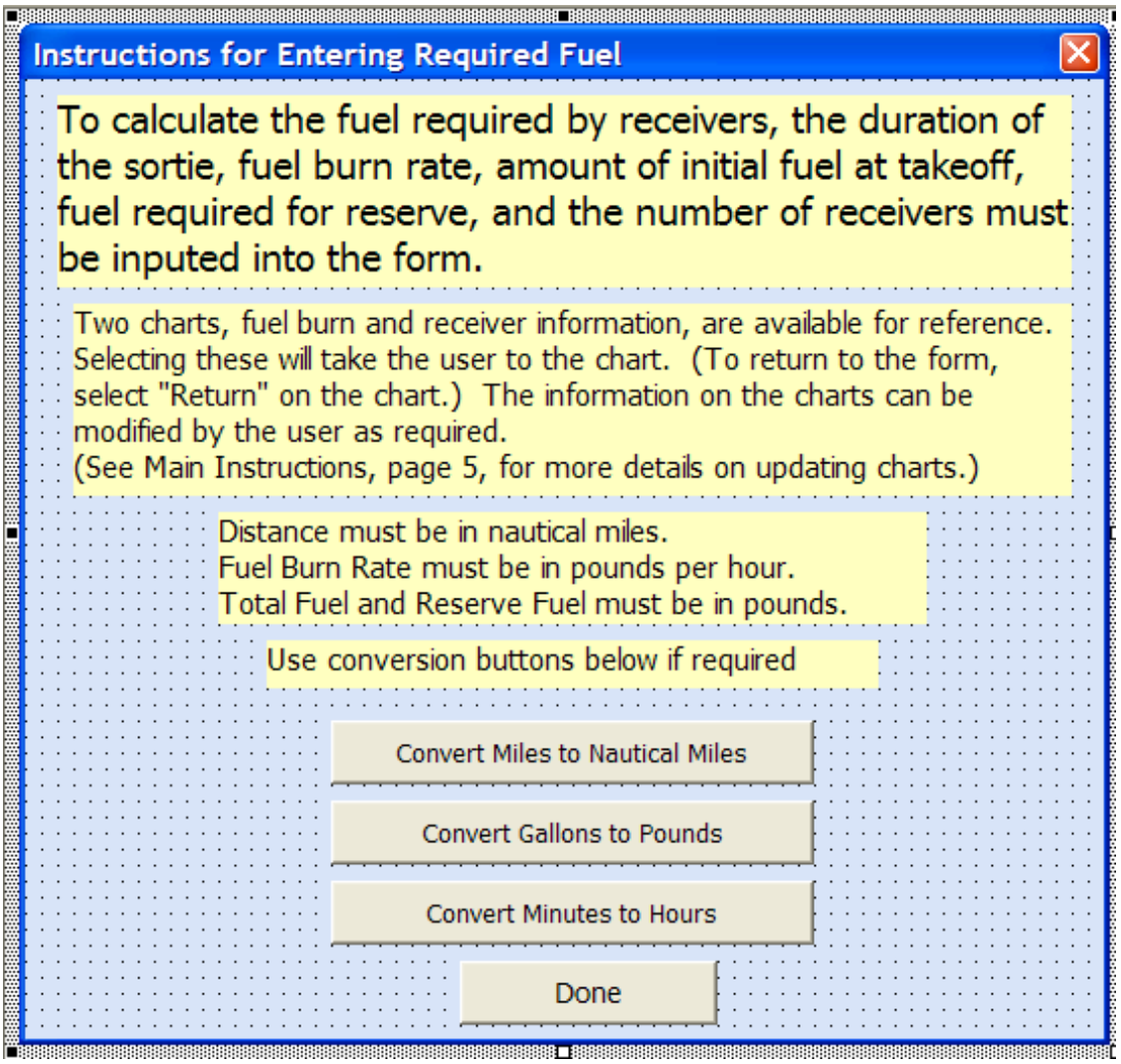



```
Option Explicit

Private Sub CmdCancel_Click()
    Unload Me
End Sub

Private Sub UserForm_Click()

End Sub
```



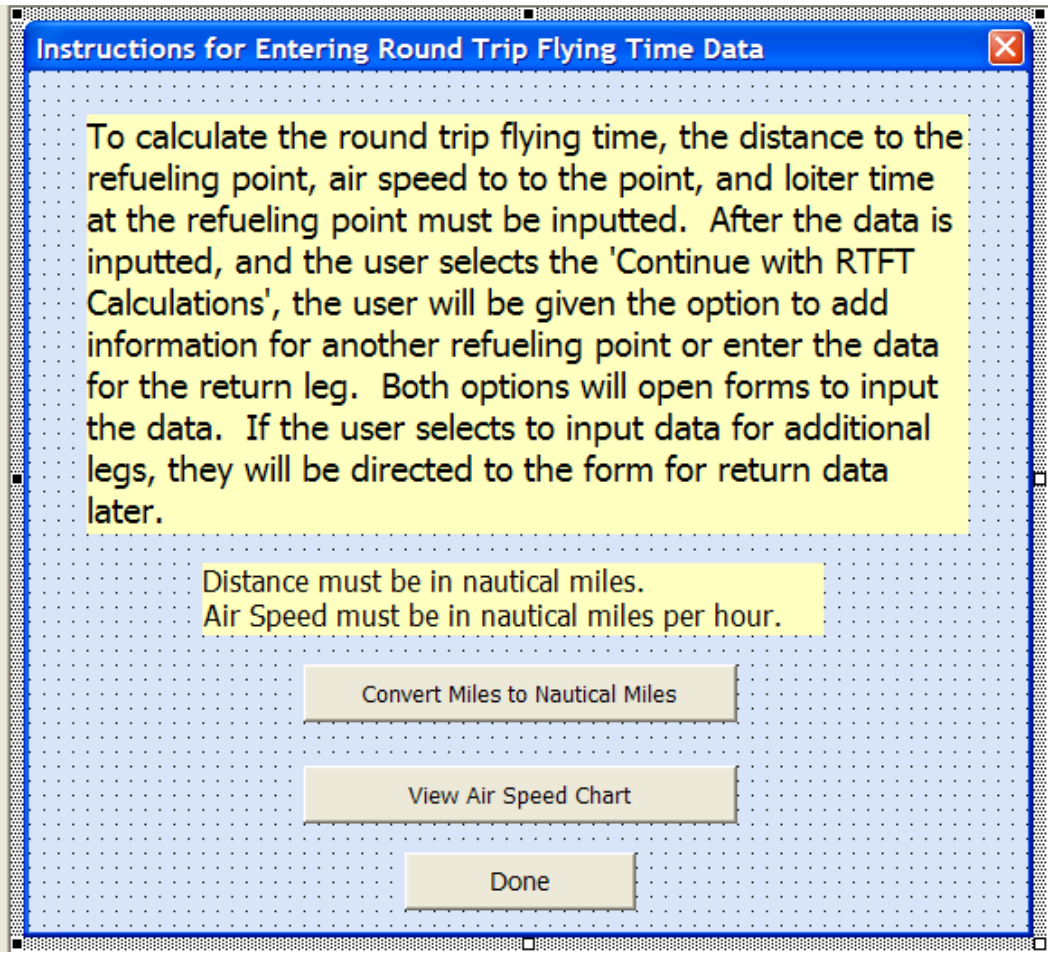

```
Option Explicit


    Dim Miles As Variant, NauticalMiles As Long, Gallons As Variant, Pounds As Long
    Dim Hours As Long, Minutes As Variant

Private Sub CmdCancel_Click()
    Unload Me
End Sub
```

```
Private Sub GallonConversionCmd_Click()
' Opens input box to allow user to input gallons and returns the number of pounds
      Gallons = InputBox("Enter the number of gallons to convert to pounds:", _
         "Gallons to Pounds Conversion")
      If Gallons = "" Or Not IsNumeric(Gallons) Then
         MsgBox "You must enter a numerical value to be converted."
         Exit Sub
      End If
      Pounds = Gallons * 6.799
      MsgBox "The number of Pounds is " & Pounds

End Sub

Private Sub MileConversionCmd_Click()
' Opens input box to allow user to input miles and returns the number of nautical miles
      Miles = InputBox("Enter the number of miles to convert to nautical miles:", _
         "Miles to Nautical Mile Conversion")
      If Miles = "" Or Not IsNumeric(Miles) Then
         MsgBox "You must enter a numerical value to be converted."
         Exit Sub
      End If
      NauticalMiles = Miles * 0.868976242
      MsgBox "The number of Nautical Miles is " & NauticalMiles
End Sub

Private Sub MinuteConversionCmd_Click()
' Opens input box to allow user to input miles and returns the number of nautical miles
      Minutes = InputBox("Enter the number of minutes to convert to hours:", _
         "Minutes to Hours Conversion")
      If Minutes = "" Or Not IsNumeric(Minutes) Then
         MsgBox "You must enter a numerical value to be converted."
         Exit Sub
      End If
      Hours = Minutes \ 60
      MsgBox "The number of Hours is " & Hours
End Sub


Private Sub UserForm_Click()

End Sub
```




```
Option Explicit

   Dim Miles As Variant, NauticalMiles As Long, Gallons As Variant, Pounds As Long
   Dim Hours As Long, Minutes As Variant

Private Sub CmdCancel_Click()
   Unload Me
End Sub


Private Sub GallonConversionCmd_Click()
' Opens input box to allow user to input gallons and returns the number of pounds
      Gallons = InputBox("Enter the number of gallons to convert to pounds:", _
         "Gallons to Pounds Conversion")
      If Gallons = "" Or Not IsNumeric(Gallons) Then
         MsgBox "You must enter a numerical value to be converted."
```

```
        Exit Sub
    End If
    Pounds = Gallons * 6.799
    MsgBox "The number of Pounds is " & Pounds
End Sub



Private Sub MileConversionCmd_Click()
' Opens input box to allow user to input miles and returns the number of nautical miles
    Miles = InputBox("Enter the number of miles to convert to nautical miles:", _
        "Miles to Nautical Mile Conversion")
    If Miles = "" Or Not IsNumeric(Miles) Then
        MsgBox "You must enter a numerical value to be converted."
        Exit Sub
    End If
    NauticalMiles = Miles * 0.868976242
    MsgBox "The number of Nautical Miles is " & NauticalMiles
End Sub

Private Sub MinuteConversionCmd_Click()
' Opens input box to allow user to input miles and returns the number of nautical miles
    Minutes = InputBox("Enter the number of minutes to convert to hours:", _
        "Minutes to Hours Conversion")
    If Minutes = "" Or Not IsNumeric(Minutes) Then
        MsgBox "You must enter a numerical value to be converted."
        Exit Sub
    End If
    Hours = Minutes \ 60
    MsgBox "The number of Hours is " & Hours
End Sub

Private Sub UserForm_Click()

End Sub
```


Instructions for Entering Round Trip Flying Time Data
To calculate the round trip flying time, the distance to the refueling point, air speed to to the point, and loiter time at the refueling point must be inputted. After the data is inputted, and the user selects the 'Continue with RTFT Calculations', the user will be given the option to add information for another refueling point or enter the data for the return leg. Both options will open forms to input the data. If the user selects to input data for additional legs, they will be directed to the form for return data later.
Distance must be in nautical miles.
Air Speed must be in nautical miles per hour.
Convert Miles to Nautical Miles
View Air Speed Chart
Done

Fuel Burn Rates

Aircraft Type	Fuel Burn Rate (Lbs/Hr)
A/OA-10	4,160
B-707	13,916
B-747	26,800
B-767	10,552
C-130	5,109
C-141	13,768
C-17	19,643
C-5	23,132
C-9	6,661
DC-10	20,616
DC-8	13,916
F-117	9,197
F-15C	10,822
F-15E	12,669
F-16	5,854
F-18	5,829
F-22A	13,154
KC-10	17,830
KC-135R	10,718
L-1011	17,219
MD-11	17,511

Source: Air Force Pamphlet 10-1403

Return

Receiver Planning Factors

(Data format in work)

Return

TYPE ACFT	MAX FUEL (10,000 LBS) Internal	External	# Bags	PPH BURN RATE Low	Med	Hi	PLN AIRSPEED Low - Med/Hi	MAX Dist to AAR	MAX ON LOAD	OPT AAR ALT
A-6E	15.9	2	3 (5)	8	6	5	435T – 0.8M	450NM	10-14K	150-200
A-10	10.7	4.0-	2 (3)	5.3	4.5	4	310T – 0.5M	500NM	5.5K	100-200
AC-130H	40	-	-	8	6.2	-	240T – 300T	800NM	30K	80-150
AC-130U	40	-	-	7	6	5	240T – 300T	1500NM	30K	80-150
AMX-B/R	6.2	1.0/1.9	2or2	5.3	4.2	3.8	420T - 0.7M	500NM	6K	150-220
AV-8B	7.7	2	2 (4)	8	5.8	5	480T - 0.8M	400NM	7.0K	150-240
B-1B	220	-	-	39	18	16	500T - 0.85M	4400NM	190K	160-220
B-2	180+	-	-	17	14	12	420T – 0.7M	4000NM	150+	240-270
B-52	305	4.7	2	26.5	22	15	360T – 0.8M	6400NM	270K	240-310
C-5	332	-	-	30	25	24	420T - 0.8M	2000+	90K+	180-260
C-17	184/274	-/37.5	-/2	24	22	17	420T - 0.8M	2000+	90K+	120-310
C-135/707 (all)	85-155	-	-	14	12	11	200I - 275I	4000NM	60/100K	200-260
C-141	153	-	-	15	13.5	12	420T - 0.85M	2000+	120K	200-260
CV-22	13.5	-	-	9	7	6	275T – 275I	700NM	10K	100-180
E-3A/C	160	-	-	15	14	13	200I - 0.72M	2500NM	100K	200-260
E-3D/F	155	-	-	15	14	13	200I – 0.72M	2500NM	90K	200-260
E-4	343	-	-	26	24	22	460T - 0.9M	5000NM	240K	200-260
F-22	18	2 (4)	11.8	8.6	7.6	250I – 0.85M	700NM	18K	No Data	Burn Rates: 40K'/30K'/20K'
F-22	18	0 (4)	8.6	6.3	5.5	250I – 0.85M	450NM	14K	No Data	Burn Rates: 40K'/30K'/20K'
F-117	18.2	-	9	7.5	6.5	500T – 0.85M	450NM	14K	180-260	
GR-7 (AV-8)	7.7	2 (4)	8	5	4	480T - 0.8M	400NM	7.7K	150-250	
Jaguar (all)	7.8	3/2wng	8	6.4	5.8	450T – 0.8M	450NM	7K	100-180	
Joint Strike Fighter	18.3	2 (2)	6	5.5	5.4	250I – 0.85M	1000NM	18K	No Data	Burn Rates: 40K'/30K'/20K'
Joint Strike Fighter	18.3	0 (2)	5.1	4.7	4.4	250I – 0.85M	750NM	15K	No Data	Burn Rates: 40K'/30K'/20K'
M2000C (A-A)	7	1-Feb	8	6	5	470T – 0.9M	400NM	8K	220-270	
M2000D/K (Gnd Attk)	8.2	1-Feb	9	7	6	470T – 0.9M	400NM	9K	150-230	
MC-130H	60	-	6.2	5.3	4.8	260T – 300T	3600NM	55K	80-160	

B	C	D	E	F	G	H	I	J	K	L
C-5	332	-	-	30	25	24	420T - 0.8M	2000+	90K+	180-260
C-17	184/274	-/37.5	-/2	24	22	17	420T - 0.8M	2000+	90K+	120-310
C-135/707 (all)	85-155	-	-	14	12	11	200I - 275I	4000NM	60/100K	200-260
C-141	153	-	-	15	13.5	12	420T - 0.85M	2000+	120K	200-260
CV-22	13.5	-	-	9	7	6	275T – 275I	700NM	10K	100-180
E-3A/C	160	-	-	15	14	13	200I - 0.72M	2500NM	100K	200-260
E-3D/F	155	-	-	15	14	13	200I – 0.72M	2500NM	90K	200-260
E-4	343	-	-	26	24	22	460T - 0.9M	5000NM	240K	200-260
F-22	18	2 (4)	11.8	8.6	7.6	250I – 0.85M	700NM	18K	No Data	Burn Rates: 40K'/30K'/20K'
F-22	18	0 (4)	8.6	6.3	5.5	250I – 0.85M	450NM	14K	No Data	Burn Rates: 40K'/30K'/20K'
F-117	18.2	-	9	7.5	6.5	500T – 0.85M	450NM	14K	180-260	
GR-7 (AV-8)	7.7	2 (4)	8	5	4	480T - 0.8M	400NM	7.7K	150-250	
Jaguar (all)	7.8	3/2wng	8	6.4	5.8	450T – 0.8M	450NM	7K	100-180	
Joint Strike Fighter	18.3	2 (2)	6	5.5	5.4	250I – 0.85M	1000NM	18K	No Data	Burn Rates: 40K'/30K'/20K'
Joint Strike Fighter	18.3	0 (2)	5.1	4.7	4.4	250I – 0.85M	750NM	15K	No Data	Burn Rates: 40K'/30K'/20K'
M2000C (A-A)	7	1-Feb	8	6	5	470T – 0.9M	400NM	8K	220-270	
M2000D/K (Gnd Attk)	8.2	1-Feb	9	7	6	470T – 0.9M	400NM	9K	150-230	
MC-130H	60	-	6.2	5.3	4.8	260T – 300T	3600NM	55K	80-160	
MC-130P	60-82	-	6.2	5.3	4.8	210I – 300T	3600NM	55K	80-160	
MIR F-1 CR/CT	7.6	1-Feb	6	5	4	475T – 0.9M	400NM	7K	150-220	
Rafale	9.4	2or2(4)	9	6.5	5	480T – 335I	750NM	9K	200-290	
RC-135S (Cobra Ball)	155	-	16	13	12.5	420T – 0.84	4000NM	100K	200-260	
RC-135V/W (RJ)	155	-	15.4	12.4	12	420T – 0.84	4000NM	100K	200-260	
RC-135U (Cbt Sent)	155	-	17	15	14	400T – 0.78	3500NM	100K	180-250	
S-3	13.1	1	2.8	2.6	2.4	210T – 440T	1200NM	6.0K	120-200	
SHARF (Sea Harrier)	7.7	2 (4)	8	5	4	480T - 0.8M	400NM	7.0K	150-250	
Tornado F-3 (ADV)	11.2	2-3(4)	8	6.4	5.8	450T – 0.85M	750NM	11	150-230	2.2K Bags also used
Tornado (all others)	11.2	2+2or4	8	6.4	5.8	450T – 0.85M	750NM	11	150-230	2.2K Bags also used

Source: All data derived from multiple unclassified internet sources; CAPES Course Nellis AFB; "Janes" data, PFPS, and aircraft T.O. data

Return

Block Speeds

Aircraft Type	Mach	500 nm	1000 nm	1500 nm	2000 nm	2500 nm	3000 nm	3500 nm	4000 nm	4500 nm	5000 nm	5500 nm	6000 nm
C-9	0.78	344	397	414	420	421	-	-	-	-	-	-	-
C-130	0.49	242	266	272	273	272	271	-	-	-	-	-	-
C-141	0.74	332	380	396	401	401	401	404	407	409	410	-	-
C-17	0.76	335	384	400	405	406	406	409	412	-	-	-	-
C-5	0.77	341	393	410	415	416	416	420	422	424	426	428	429
KC-10	0.81	354	410	428	435	436	437	440	443	446	447	449	450
KC-135	0.79	348	401	419	425	426	426	430	433	435	437	438	439
B-707	0.8	351	405	424	430	431	432	435	438	-	-	-	-
B-747	0.84	363	422	442	450	451	452	456	459	461	463	465	466
B-767	0.81	354	410	428	435	436	437	440	443	446	447	-	-
DC-8	0.8	351	405	424	430	431	432	435	438	440	442	-	-
DC-10	0.83	360	418	438	445	446	447	451	454	456	458	-	-
L-1011	0.81	354	410	428	435	436	437	440	443	446	447	-	-
MD-11	0.83	360	418	438	445	446	447	451	454	456	458	460	461

For speed of combat, please reference the applicable flight manual speeds

Source: Air Force Pamphlet 10-1403

Return

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14. ABSTRACT

This Graduate Research Project is an improvement to the Tanker Employment Model developed by Maj. Margaret Romero. Her model which uses Excel VBA is used to determine the tanker capacity requirements needed to perform specific user defined tanker employment missions. The output is useful for rough-cut analysis of the tanker employment mission. The improvement to the Tanker Employment Model is the capability to use multiple tanker types simultaneously. The model chooses the optimum order for the tanker types and number of tankers to support a specific tanker employment mission. It also provides additional information to compare the use of multiple tankers.

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